



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



3 3433 00098476 9












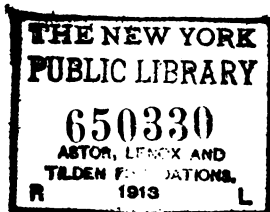
Things Worth Knowing

A treasury of useful information answering
thousands of questions, and adapting
itself to the needs of men and
women in every walk
of life.

by JOHN H. BECHTEL



Philadelphia
The Penn Publishing Company
1906



COPYRIGHT 1900 BY THE PENN PUBLISHING COMPANY

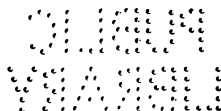
NOT FOR
CIRCULATION
LIBRARY

CONTENTS.

CHAPTER	PAGE
I. WHAT TO DO IN EMERGENCIES.....	7
II. AILMENTS AND REMEDIES.....	14
III. RAILROADS, CANALS, TELEGRAPHS, STEAMSHIPS, ETC	25
IV. RACES OF MANKIND, GOVERNMENTS, LANGUAGES, ETC	43
V. COMMERCIAL PRODUCTS:.....	46
VI. TEMPERATURE, RAINFALL, ETC.....	56
VII. AREA, POPULATION, RELIGION. AND FORM OF GOVERNMENT OF THE PRINCIPAL COUNTRIES OF THE WORLD.....	59
VIII. SPORTING RECORDS.....	78
IX. VITAL STATISTICS.....	95
X. CARE OF HOUSE ANIMALS.....	98
XI. CARE AND TREATMENT OF HOUSE PLANTS.....	100
XII. TO DESTROY HOUSE PESTS.....	105
XIII. HELPFUL HINTS.....	107
XIV. THE BEDROOM.....	114
XV. THE BATH.....	115
XVI. THE LAUNDRY.....	118
XVII. TO KEEP FRUITS, VEGETABLES, EGGS, MEATS, ETC.	121

CHAPTER

XVIII. FURNITURE.....	1
XIX. TO CLEAN AND PRESERVE CLOTHING.....	1
XX. GEOGRAPHICAL AND HISTORICAL	1
XXI. TIME	1
XXII. MEASURES	1
XXIII. THE LARGEST AND MOST REMARKABLE THINGS. 1	
XXIV. DISEASES OF CHILDREN.....	1
XXV. SICK DIET.....	1
XXVI. TO CLEANSE AND POLISH METALS, GLASS, WOOD, ETC.....	1
XXVII. TO CLEAN CARPETS, MATTING, OIL-CLOTH, LEATHER, ETC.....	1
XXVIII. TO REMOVE GREASE, PAINT, SCORCH, STAINS, RUST, INK, ETC.....	1
XXIX. CARE OF LAMPS.....	1
XXX. POSTAL REGULATIONS.....	20
XXXX. MISCELLANEOUS.....	20
INDEX.....	22



THINGS WORTH KNOWING

I. WHAT TO DO IN EMERGENCIES

To Resuscitate a Drowning Person.—As moments are vital do not waste time by removing the patient to a house, unless the weather is very severe. Send promptly for a physician, if there is one within reach, also for blankets and dry clothing. Remove wet clothing from upper part of the body. Lay the patient on the ground, face downward, with left arm under his forehead. If the breath has ceased, lay the patient on his back, with a folded coat for a pillow ; with a dry handkerchief in your hand, seize the tongue and draw it well out of the mouth and hold it there. A second person, kneeling at the patient's head, should grasp both the arms just below the elbows, draw them up over the patient's head, hold them two or three seconds there, press them firmly against the sides of his chest, and hold them there for several seconds. Continue the process until natural breathing has been restored or until the doctor arrives. A little hartshorn or smelling salts applied to the nostrils is helpful. As soon as breathing has been re-established, rub the limbs upward vigorously with the dry hand or with warm flannels. Put the patient

to bed between warm blankets. Apply hot water bottles or hot bags of sand to chest, trunk and extremities. When consciousness has returned, give him a little hot water or coffee, or a sip of brandy.

To Extinguish Clothing on Fire.—If the clothing becomes ignited do not run downstairs or out of doors, as this intensifies the flame. Lie down upon the floor or ground, and extinguish the flames by rolling over and over. Wrap carpet, rug, blanket or other convenient object tightly about your person.

To Stop Bleeding.—If the blood issues in spurts from the cut or wound, it is an evidence that an artery has been severed. Bind the limb tightly just above the wound with a strap, towel, scarf or handkerchief. If greater pressure is needed to stop the flow, place a knotted handkerchief or a closely folded newspaper directly over the artery, under the strap or bandage, and with a cane or ruler slipped under the strap, twist the bandage until the flow ceases. Send for a physician. If the blood issues in a steady flow, but not in spurts, a vein has been divided, and the danger is not so great. Apply the bandage below the wound. If a scalp wound make a pad of linen or waste and bandage tightly with a folded handkerchief or towel. If the bleeding appears to be from a large wound, wash with cold water, and keep in an elevated position. Join the edges with sticking-plaster, apply a pad of lint, and bandage. If the gums bleed excessively when a tooth is drawn, fill the cavity with lint above the edge of the gum, so that the closed mouth will press upon the packing. Use only cold food.

If a blood-vessel burst, the patient should lie down, and have ice placed on or near the affected part. Bind the

cuts with cobwebs and brown sugar, or with fine dust of tea.

For nosebleed, bathe head and face freely in cold water. Drop a few drops down the back of neck, or press the finger against the side of the nostril. If these fail, snuff up a little powdered alum and water. Vigorous chewing upon a rag or wad of paper is also recommended.

Nose Bleeding.—Bleeding of the nose is often very difficult to stop. Cut some blotting paper about an inch square, roll it about the size of a lead pencil, and put it up the nostril that is bleeding. The hollow in it will allow the sufferer to breathe; the blood will fill the space between the tube and the nose, and will very soon coagulate and cease to flow.

To Extinguish Fire from Coal Oil.—Smother the flame with a woolen rug, carpet, or tablecloth, or use dirt, sand, or flour. Do not use water, as that spreads the flames.

To Restore Consciousness.—If a person has been rendered insensible from a fall, or from a blow upon the head, send for a doctor. In the meantime lay him on his back with head raised. Loosen clothing. Do not give brandy. If the unconsciousness is the result of breathing foul gas or being buried under a fall of earth, proceed as in the case of drowning. If from inhaling illuminating gas, place the patient on his back in the fresh air. Keep him warm. A little ammonia in water taken at frequent intervals will prove helpful.

To Check an Epileptic Fit.—Lay the patient gently upon his back. Loosen clothing from neck. Insert a cork or bit of wood between the teeth to prevent the tongue from being bitten, and wait until the fit is over.

To Restore a Person Who has Fainted.—Place the subject upon his back. Loosen clothing. Apply hartshorn or strong smelling salts to the nostrils. Dash cold water on the face, head and chest, and put hot-water bottles to the feet.

To Remove a Bean from the Nose.—If a pea, bean or other foreign substance lodge in the nose, press the finger tightly against the free nostril and have the child blow forcibly down the obstructed nostril, or insert the handle of a small salt spoon and scoop it out.

To Remove an Object from the Ear.—A few drops of olive oil will kill an insect that has crept into the ear. A cherry stone or grain of corn may be dislodged by insinuating the curved end of a bit of fine wire or a fine hairpin, but this must be done with the utmost care and gentleness.

To Remove a Cinder from the Eye.—A foreign substance lodged on one of the lids may be removed by having another person invert the lid and catch the mote on pencil point. If embedded in the globe of the eye, a camel hair pencil moistened with water may be used. Do not rub the injured eye. A trifling obstruction is often removed rubbing the other eye. If quicklime should get into eye, wash thoroughly with water and drop a drop of sweet oil into it.

I. To remove any foreign body from the eye, take hold of the eyelash and draw the upper eyelid gently over the one. If this does not answer, remove the object with a camel hair brush. II. Hold the upper lid away from the eye with the finger and thumb of the right hand, look to the right, and then let go the lid; the dirt will then be out *edge of the eyelid*. Do not irritate the organ by rubbing *with a handkerchief* or the hand. III. Take a

and double it, leaving a loop. If the mote can be seen, lay the loop over it, close the eye and the mote will come out as the hair is withdrawn. If the irritating object cannot be seen, raise the lid of the eye as far as possible, and place the loop as far in as you can, close the eye and roll the ball around a few times, then draw out the hair. This method is practised by axmakers and other workers in steel.

If the eyes are not strong, dash hot water with salt in it on them morning and night. Half a teaspoonful of salt to a pint of water. But by all means see an oculist if there is any real trouble.

An Antidote for Snake Bites.—Sweet oil is not only an antidote for the bite of a rattlesnake, but will cure poison of any kind, both on man and beast. The patient must take a teaspoonful of it internally, and also bathe the wound with it. To cure a horse will require eight times as much as for a man.

Stings.—Sweet oil will cure the stings of bees, spiders, or other insects, and persons who have been poisoned by a low, running vine called ivy.

To Relieve Bloat in Cattle.—Animals suffering from having eaten too much fresh clover will be relieved by administering a liberal dose of sweet oil.

To Escape from a House on Fire.—Creep on your hands and knees, with your face near the floor. Although the room may be full of smoke, yet near the floor the air may be breathed with safety. Cover the head with a woolen wrap, wet, if possible. Cut holes for the eyes. Don't get excited. A good escape from upper windows is a knotted rope; but if a leap is unavoidable, then a bed should be thrown out first, and upon this the person should jump.

To Prevent Mistakes in Giving Medicines.—Many serious and even fatal accidents have occurred through reading the labels on medicine incorrectly, or omitting to read them altogether. In the night these accidents are more likely to occur than at any other time, and therefore a light should always be obtained before the medicine is administered.

What to do When You Get Wet.—When a person is wet, he ought never to stand still, but to continue in motion till he arrives at a place where he may be suitably accommodated. Here he should remove his wet clothes, to be changed for such as are dry, and have those parts of his body that have been wet well rubbed with a dry cloth.

To Relieve Sunstroke.—The head may be kept cool and free from sunstroke under the hottest sun, by placing a freshly-cut cabbage leaf in the inside of the hat or cap each morning. When a person has been overcome with heat, remove to a cool, shady place, loosen clothing, and apply ice-cold water or cracked ice to the head. Do not give stimulants.

To Rescue One who has Broken Through Ice.—Let two or more persons hold a rope or ropes, at both ends, stretched over the broken ice, so that the person immersed may catch hold of it.

What to do with a Watch that has Dropped into Water.—If a watch has fallen into water, immerse it as soon after as possible in spirits. Oil, which is sometimes used, is objectionable, as it clogs the mechanism.

To Prevent Drowning.—When a person falls into deep water, he will rise to the surface, and continue there, if he does not elevate his arms. If he moves his hands under the

water, his head will rise so high as to allow him to breathe ; and if he moves his legs as in the act of walking up-stairs, his shoulders will rise above the water, so that he may use less exertion with his hands, or apply them to other purposes. Acting thus, there will be great probability of his keeping afloat until assistance arrives.

When upset in a boat or thrown into the water and unable to swim, draw the breath in well ; keep the mouth tight shut ; do not struggle and throw the arms up, but yield quietly to the water ; hold the head well up, and stretch out the hands only below the water ; to throw the hands or feet up will pitch the body below the water, and cause the whole person to go immediately under. Keep the head above, and everything else under water.

Every one should learn to swim. The beginner might sustain himself by a plank, a block of wood, an attachment composed of cork, an inflated bladder, or a stout cord attached to a long rod held by an assistant on the land. Learn to swim, cost what it will.

A Good Remedy for Burns.—Put half a pound of camphor broken up, with a pint of rum, into a bottle. Keep it well corked, and tied over with a piece of bladder. When needed wet a linen rag with a little of it, and apply it to the part affected. This will remove the pain in a few minutes. Lint, cotton wool, or waste soaked in oil and bandaged over the wound is an excellent remedy.

To Relieve a Case of Apoplexy.—Elevate the head ; loosen clothing around the neck. Apply ice or cold water cloths to the head ; put the feet in mustard water ; apply hot poultices to the calves of the legs.

To Relieve Bruises.—Dip cloths in a strong solution

of vinegar and water, and apply frequently. Keep constantly wet.

If the skin is not broken, apply arnica lotion at once, mixing ten drops of strong tincture with a tablespoonful of water. If the skin is broken, apply hot-water dressings.

To Relieve Choking.—If the substance cannot be reached by the thumb and finger, force it down the throat with a pencil or piece of whalebone. A sharp blow on the back will often dislodge a foreign body in the throat.

II. AILMENTS AND REMEDIES

To Relieve Bites of Venomous Animals or Insects.—In the case of a bite from a rabid or venomous animal, stop the circulation of the poison by binding a handkerchief, towel or suspender tightly round the limb, between the wound and the heart. Suck the wound, and bathe it with warm water to make it bleed. The poison does not affect the stomach, and taken through the mouth is not injurious, though it should be immediately ejected from the mouth. For rattlesnake bite, give whisky till the patient is intoxicated. The bite of a dog should be cauterized at once, even if there are no signs of madness, and the animal should be secured for a few days to determine whether he is affected by rabies.

What to do for Bolls.—Apply hot linseed poultices frequently. Lance them when ready for the operation.

To Relieve Burns.—I. Sprinkle dry flour over the burn and wrap with linen or cotton.

II. Mix lime-water with equal part of linseed oil and apply on a piece of old linen.

III. Apply glycerine, olive oil, or soda, and wrap in flannel or cotton wool.

Remedy for Chilblains.—Two teaspoonfuls of baking soda dissolved in a quart of lukewarm water makes an excellent foot bath. Or, rub the feet with kerosene. Oil-skin socks, worn night and day, are useful. Spirits of turpentine, if the skin is not broken, may be applied, or equal parts of vinegar and spirits of wine, or diluted muriatic acid. But, if the skin is broken, mild poultices must be used. Do not go near the fire.

Or, apply linen, spread with an ointment of mutton suet and powdered chalk, if the skin is broken ; if not, with an ointment of dry mustard and lard.

To Relieve Frost Bite.—Snow or ice rubbed vigorously upon nose, ears, cheeks or fingers when nipped by the cold, will usually start the circulation of the blood and prevent further distress.

Produce reaction by rubbing the part with snow or ice. Avoid sudden heat.

To Cure a Cold.—I. When you feel the first symptoms of a cold in the head, take ten drops of camphor in half a glass of hot water, and just before you get into bed take four grains of quinine. Take four grains more next morning after breakfast.

II. If a cold has taken firm hold upon you sweat it out. Put a hot-water bag at your feet on getting into bed, drink a glass of hot lemonade, pull the covers over your head and produce lively perspiration.

III. A Turkish or Russian bath is often employed to break up a cold.

A Remedy for Gout.—Linnaeus, the great naturalist,

Things Worth Knowing

persuaded to take strawberries during a severe attack of sea-sickness, with the result that a sweet sleep ensued, and when awoke the pain had sensibly subsided. On the next day he ate as many strawberries as possible, and on the following morning the pain was gone and he was able to leave his cabin. Gouty pains returned at the same date in the next voyage, but they were dispersed as soon as Linnæus was able to eat strawberries. This fruit is regarded as a useful food for gouty persons on account of its richness in the salts of soda, soda and lime and its cooling, diuretic and laxative properties.

Prevent Seasickness.—Prepare strong green tea, slightly sweetened. Take a cupful when you feel the first symptoms. If the disturbance is not quieted, let the stomach empty and then take the tea. Two or three draughts usually restore the stomach. In slight attacks chewing ginger vigorously chewed will prove effective. Lie flat upon the deck or chairs on deck or in the open air, near the middle of the boat, and close your eyes to your surroundings.

Preserve the Sight.—Never sit for any length of time in absolute gloom, or exposed to a blaze of light, and never remove to an opposite extreme. Avoid reading very small print. Never read by twilight nor by firelight; if the eyes are disordered, by candlelight. Do not let the eye dwell on glaring objects, particularly at waking in the morning. Long-sighted persons should accustom themselves to read with rather a distance and somewhat nearer to the eye, than is natural; while the short-sighted should habituate themselves to read with the book as far off as possible. *Never use the sight longer than a moderate degree*

too little strains the eyes, and too great a quantity dazzles them. Do not wear other spectacles than your own, to which your eyes have accommodated themselves.

Spectacles, when Necessary.—1. When we are obliged to remove small objects to an increased distance from the eye to see them distinctly. 2. When we find it necessary to have more light than formerly. 3. When, on looking at and attentively considering a near object, it becomes confused, and appears to have a kind of mist before it. 4. When the letters of a book run into one another, and become double. 5. When the eyes are so fatigued by a little exercise that we are obliged to shut them from time to time, and to relieve them by looking at different objects.

A Relief for Offensive Feet.—As shoes and boots are very slightly porous, the free discharge of the offensive perspiratory matter is prevented; and consequently it occasions an offensive smell. The only remedy is cleanliness. Wash the feet night and morning with lukewarm water and soap; put on clean stockings every day; keep two or three pairs of shoes in wear and change them every other day. By these means, the annoyance will be considerably lessened, if not removed.

A Cure for Corns.—For a hard corn, soak in hot water with a pinch of borax, and cut carefully with pen-knife or scissors, or scrape with a file. For a soft corn, apply arnica, if the skin is not broken, and put cotton-wool soaked in oil between the toes, or scrape a piece of common chalk, put a small portion of it upon the corn and bind it with a linen rag. Repeat the application for a few days and the corn will come off.

What to do for Cuts and Wounds.—Wash with co-

water. Raise the wounded part, and by moderate pressure, stop the bleeding. Keep the edges of the wound in their natural position, with strips of adhesive plaster, and apply dressings of cold water. Put oiled silk over the dressing to keep it from drying. When redressing a wound, dip a sponge in warm water and lay it over the part so that the rag or the lint may be removed without disturbing the wound.

Relief for Earache.—A roasted onion put to the ear, or cotton-wool moistened with sweet oil and paregoric, will be found to give relief. Keep the ear warm with poultices or apply a small rubber bag filled with hot water, or tie warm bandages over the ear. Or, take a bit of cotton batting, put upon it a pinch of black pepper, gather it up and tie it, dip in sweet oil and insert into the ear. Put a flannel bandage over the head to keep it warm. It will give immediate relief. See SAND BAG.

Keep a Medicine Chest.—Every housekeeper should have a medicine chest or shelf. Poisonous drugs should be plainly labeled and kept under lock and key, or out of the reach of children and ignorant servants. The following simple drugs should be found in every household: Spirits of camphor, extract of witchhazel, essence of peppermint, old brandy, paregoric, ipecacuanha, castor-oil, Jamaica ginger, spirits of ammonia, box of prepared mustard plasters. Old linen rags are always of use in case of accidents.

Value of a Rubber Bag.—A rubber bag filled with hot water can be easily applied wherever a warm application is necessary. It retains the heat a long time, and is in every way preferable to the wringing out of hot cloths.

Lime-Water as a Household Need.—Place a piece of

unslaked lime in a perfectly clean bottle, and fill with cold water ; keep corked in a cool, dark place. When the water is poured off add more. This may be done three or four times, after which some new lime must be used, as at first. A teaspoonful in a cup of milk is a remedy for children's summer complaint ; also for acidity of the stomach ; when added to milk it has no unpleasant taste ; and when put into milk that would otherwise curdle when heated, it prevents its curdling, so that it can then be used for puddings and pies.

Good Emetics.—Dissolve two tablespoonfuls of common salt or one dessertspoonful of mustard in a half-pint of hot water. If that is not at hand, or in an emergency like poisoning, run the finger down the throat, or tickle the throat with a feather.

Bad Effects of Cold Feet.—Never sleep with cold feet. Use the hot-water or sand bag or a bottle with hot water in it tightly corked, and wrapped round with a piece of flannel. Take exercise. Rub the feet well with a rough towel after washing. If cold during the day, wear woolen or silk stockings, and shoes not too small. Layers of newspapers cut so as to fit the sole of the shoe are warm. Previous to retiring at night, and before undressing, rub the feet and ankles briskly with the hands. Sometimes wearing two pairs of stockings composed of different fabrics, one pair of silk or cotton, the other of wool, will preserve the natural heat of the feet.

To Relieve Frosted Feet.—Put the feet into tepid water until feeling returns. When frozen, they are generally very white, all of the blood having been driven from the surface. A hot borax water bath of half an hour, with a

thorough rubbing with glycerine, is good. The feet should be thoroughly dry and warm before the glycerine is applied, otherwise they will stay damp. Put on old, loose stockings, cut off at the ankles, and keep warm. A preparation made of two ounces each of glycerine and coal oil, with one teaspoonful carbolic acid, is said to be good, applied with the hand twice a day for five minutes.

To Prevent Feet from Perspiring.—Persons troubled with perspiring or offensive feet should bathe them every night, or oftener, in a strong solution of borax, using a tablespoonful of pulverized borax to a basin of water. Two or three weeks of such treatment will often be found sufficient to effect a cure.

To Relieve Swelling Feet.—Wilt plantain leaves by putting them separately between the hands; cover the swollen parts with them, and keep in place by wrapping the limb with rags or a towel on going to bed at night, or keep them on during the day if possible. Bathing the feet in salt and water is good.

A Cure for Headache.—Place a mustard plaster on the back of the neck. A rubber bag of hot water or a sand bag at the feet is often useful, even if the feet are not cold. A menthol pencil rubbed over the place that aches sometimes works a cure.

An Easy Cure for Hiccoughs.—I. For hiccough, drink a full glass of water without stopping. II. Compress the wrist of the right hand with a piece of string, or with the forefinger and thumb of the other hand.

To Relieve Heartburn.—Dissolve half a teaspoonful of bi-carbonate of soda in half a tumbler of water and drink it. Soda mint tablets will be found helpful.

To Prevent Lockjaw.—Take a red-hot coal from the fire and pour sweet oil on it. Hold the wounded part over the thick smoke, as near the coal as possible without burning. Repeat the operation two or three times a day. This remedy has been known to cure after the jaws had begun to lock.

How to Make a Mustard Plaster.—Take two parts Indian meal or wheat flour to one part mustard. Moisten with water and mix evenly. Spread on piece of stout cloth, and place thin muslin over it. The prepared mustard plasters sold in the stores are always ready for use and will keep fresh for any length of time.

To Prevent Ingrowing Nails.—Put a small piece of tallow in a spoon, and heat it over a lamp until it becomes very hot, and drop two or three drops between the nail and the granulations. Pain and tenderness are at once relieved, and in a few days the granulations disappear.

Relief for Neuralgia.—Requires medicine internally. Hot water bottles or bags of sand afford temporary relief. Chloroform Liniment is recommended. Painting the course of the nerve with the pure tincture of aconite or belladonna sometimes proves efficacious.

What to do for Sore Nipples.—If sore they should be sponged with warm water and washed with a little weak rum and water, or borax and glycerine. This should be removed by washing with clear warm water before the child is again put to the breast.

Value of a Linseed Poultice.—Linseed poultices retain heat wonderfully. They are especially valuable in cases of rheumatism. For wounds or abscesses, elderblow flowers pulverized and mixed with lard are efficacious.

To Cure Prickly Heat.—This distressing malady is generally relieved by a solution of sulphate of copper ten grains to the ounce of water; apply daily, or oftener, by means of a camel's hair brush, or bit of sponge tied on the end of a stick. It must be allowed to dry on the skin before dressing. Three or four days' application should effect a cure.

To Prevent and to Relieve Rheumatism.—Linseed poultices give temporary relief. Permanent relief can only be afforded by careful attention to the whole system. Avoid meat and other nitrogenous foods; take vegetable acids in fruits and fresh vegetables. Lemonade, without sugar, is excellent for many kinds of rheumatism, taken as a prophylactic. Lithia water is recommended by some as a preventive. Whatever helps to prevent biliousness and kidney trouble helps rheumatism. Avoid fatigue, cold and dampness; wear warm flannel; avoid stimulants.

How to Treat Salt Rheum.—Prepare a mixture of beeswax two ounces, spermaceti oil two ounces, sweet oil half-ounce, camphor gum a quarter of an ounce, and apply.

A Remedy for Sciatica.—Heat a flat-iron, wrap it in woolen cloth moistened with vinegar, and apply as warm as can be borne to the painful spot, two or three times a day. As a rule, the pain will disappear within twenty-four hours.

How to Relieve Sleeplessness.—Secure plenty of cool, fresh air in the room, but guard against chill. If the feet are cold, keep a rubber bag of hot water or a hot sand bag at the foot of the bed. Bathing the head and face, and a brisk rubbing of the whole body with a flesh brush, will *tend to induce sleep*, and a brisk walk in the open air just *before retiring* will often prove helpful. A little light

food is beneficial. Sometimes a glass of hot water will have the desired effect.

An Excellent Remedy for Sore Throat.—Hold in the mouth small pieces of ice till melted. A compress formed by wetting one end of a towel in cold water and wrapping closely round the throat is often helpful. Alcohol and water make an effective gargle, so does warm milk, and hot flaxseed tea is one of the most effectual remedies. If the throat and chest are bathed in cold water every day one is not likely to suffer from sore throat. Salt and water is used by many as a gargle, but a little alum and honey dissolved in sage tea is better. An application of cloths wrung out of hot water and applied to the neck, changing as often as they begin to cool, is excellent for removing inflammation. It should be kept up for a number of hours. An excellent gargle is also made of tincture of myrrh, two drachms; water, four ounces; vinegar, half an ounce.

How to Treat Smallpox.—One ounce of cream of tartar, dissolved in a pint of water, and drunk at intervals, when cold, is said to be a never-failing remedy. It never causes blindness, and avoids tedious lingering.

Relief for Stings.—Moisten the part affected with common salt and water, or apply lime water or camphor, or cut a slice of onion and put on the wound, renewing it frequently.

What to do when one has swallowed coins, buttons, pins, needles, etc.—Beat up the white of an egg and administer at once, to protect the coating of the stomach. Eat freely of fresh bread. This surrounds the object and protects the lining of the intestines. The article swallowed will as a rule pass away through the bowels without

trouble. It is not necessary to give medicines. Send for a doctor.

To Relieve Vomiting.—Small pieces of ice held in the mouth will sometimes allay it.

How to take Nauseous Medicine.—If the nose be held tightly while nauseous medicine is being administered, no taste will be perceptible.

Disadvantage of Wearing Silk Hats.—The silk plush is laid on by means of a thick glutinous varnish which prevents ventilation. The fact that those who wear silk hats become bald earlier than others is well known to every one in the hat trade.

To Prevent Colds.—Colds, generally speaking, are caught through persons coddling themselves up. If the body is sponged every morning from head to foot with cold water, it will be able to defy the atmospheric influences which, under ordinary circumstances, so frequently produce cold. Old people and those in feeble health should begin very moderately.

To Cure Face Eruptions.—Smear the face over with oil of walnuts at night on going to bed, and wash it off in the morning by means of a little oatmeal or Indian meal in the water instead of soap.

A Speedy Remedy for Chapped Hands.—Rub the hands with a piece of lemon dipped in corn meal or wash them in vinegar. Either of these methods will, of course, produce smarting, but the remedy is certain and speedy.

How to Relieve Asthma.—Soak some blotting paper in a strong solution of saltpetre, dry it; take a piece about the size of your hand, and on going to bed light it, and lay

it upon a plate in your bedroom, and you will sleep almost as well as when in health.

To Prevent Fatigue.—Pedestrians who are desirous of preserving their strength and vigor, should breathe through the nose instead of the mouth. The difference in waste of strength by a long walk with the mouth firmly closed, instead of having the mouth open, is inconceivable to those who have never tried the experiment.

To Relieve Toothache.—If the cause is purely neuralgic, treat for that disease (See Neuralgia). If it arises from an exposed nerve, creosote, oil of cloves, oil of cajeput, or a little laudanum, introduced into the cavity of the tooth on a bit of cotton, will generally afford relief. If the pain continues, see a dentist or a physician.

Freezing, Fusing, and Boiling Points.—Water freezes at 32 deg. Fahrenheit ; olive oil at 50 deg. ; quick silver 39 deg. below zero. Copper fuses at 2,200 deg. ; gold at 2,518 deg. ; iron at 2,800 deg. ; lead at 617 deg. ; silver at 1,832 deg. ; tin at 442 deg. ; zinc at 773 deg. Water boils at 212 deg. ; alcohol at 167 deg. ; ether at 96 deg.

III. RAILROADS, CANALS, TELEGRAPHS, STEAMSHIPS, ETC.

RAILWAY MILEAGE OF THE WORLD, 1898

MILES		MILES	
North America.....	210,006	Africa	9,978
South America.....	26,834	Australasia	14,384
Europe.....	163,216		
Asia.....	31,102	Total.....	455,420

RAILWAY MILEAGE BY COUNTRIES

NORTH AMERICA		EUROPE (<i>Continued</i>)	
	MILES		MI
United States.....	185,466	Sweden.....	6,
Canada.....	16,791	Servia.....	
Newfoundland... ..	569	Roumania.....	1,
Mexico.....	7,431	Greece.....	
Central America.....	649	European Turkey, Bulgaria, and Roumelia.....	1,
Total.....	210,906	Malta, Jersey, Isle of Man....	
		Total.....	163,
SOUTH AMERICA		ASIA	
U. S. of Columbia.....	348		
Cuba.....	1,111	British India.....	21,
Venezuela.....	637	Ceylon....	
San Domingo.....	117	Turkey in Asia.....	1,
Brazil.....	8,713	Russia in Asia.....	3,
Argentina.....	9,483	Persia.....	
Paraguay.....	158	Dutch India.....	1,
Uruguay.....	1,125	Japan.....	2,
Chile.....	2,679	Portuguese India.....	
Peru.....	1,042	Malay Archipelago.....	
Bolivia.....	625	China.....	
Ecuador.....	188	Siam.....	
British Guiana.....	22	Cochin China, Pondicherry, Malacca, and Tonquin....	
Jamaica, Barbadoes, Trinidad, Martinique, and Porto Rico	586	Total.....	31,
Total.....	26,834		
EUROPE		AFRICA	
Germany.....	30,072	Egypt.....	
Austro-Hungary.....	21,042	Algeria and Tunis.....	2
Great Britain and Ireland....	21,528	Cape Colony and Natal.....	2,
France.....	25,838	South African Republic.....	
Russia.....	25,164	Orange Free State.....	
Italy.....	9,777	Mauritius, Reunion, Congo, Soudan and other states....	2
Belgium.....	3,600	Total.....	9
Netherlands.....	1,956		
Switzerland.....	2,279		
Spain.....	6,823		
Portugal.....	1,474		
Denmark.....	1,589	AUSTRALASIA	
Norway.....	1,211	Australia and Oceania.....	1

Railroads, Canals, Telegraphs

27

RAILWAY MILEAGE IN THE UNITED STATES, BY STATES AND TERRITORIES, 1898

	MILES		MILES
Alabama.....	3,919.00	Nebraska.....	5,604.30
Alaska.....		Nevada.....	898.35
Arizona.....	1,339.50	New Hampshire.....	1,229.08
Arkansas.....	2,861.58	New Jersey.....	2,237.53
California.....	5,467.91	New Mexico.....	1,539.79
Colorado.....	4,601.18	New York.....	8,299.82
Connecticut.....	1,009.05	North Carolina.....	3,609.51
Delaware.....	351.12	North Dakota.....	2,584.42
District of Columbia.....	29.75	Ohio.....	8,736.14
Florida.....	3,231.62	Oklahoma.....	511.75
Georgia.....	5,485.87	Oregon.....	1,599.38
Idaho.....	1,094.41	Pennsylvania.....	9,909.51
Illinois.....	10,851.67	Rhode Island.....	223.05
Indiana.....	6,400.46	South Carolina.....	2,688.32
Indian Territory.....	1,188.99	South Dakota.....	2,802.79
Iowa.....	8,518.13	Tennessee.....	3,109.37
Kansas.....	8,790.41	Texas.....	9,650.02
Kentucky.....	3,105.41	Utah.....	1,417.65
Louisiana.....	2,501.45	Vermont.....	902.81
Maine.....	1,776.21	Virginia.....	3,676.19
Maryland.....	1,325.70	Washington.....	2,829.23
Massachusetts.....	2,124.69	West Virginia.....	2,143.08
Michigan.....	7,074.78	Wisconsin.....	6,398.27
Minnesota.....	6,216.06	Wyoming.....	1,179.97
Mississippi.....	2,681.22		
Missouri.....	6,762.56	Total.....	185,466.33
Montana.....	2,915.46		

INCREASE OF RAILWAY MILEAGE IN THE UNITED STATES

	MILES		MILES
1830.....	23	1892.....	171,563.52
1840.....	2,818	1893.....	176,461.07
1850.....	9,021	1894.....	178,708.55
1860.....	30,626	1895.....	180,657.47
1870.....	52,022	1896.....	182,776.63
1880.....	93,296	1897.....	184,428.47
1890.....	166,698	1898.....	186,396.32
1891.....	168,402	1899.....	190,345

The increase in mileage for 1899 was greater than in any year since 1890.

COMPARATIVE STATISTICS OF RAILROADS IN THE UNITED STATES

1879-1898

Year Ending	Capital Stock	Miles of Line Worked	Bonded Debt	Gross Earnings	Net Earnings	Interest Paid	Dividends Paid
1870.....	\$2,305,657,203	70,009	\$2,310,480,172	\$525,620,577	\$216,544,099	\$112,327,515	\$61,681,470
1880.....	3,208,673,375	82,146	2,520,874,043	613,733,610	255,557,555	107,866,328	77,115,371
1881.....	3,177,375,797	93,971	3,578,743,668	701,780,982	272,506,787	128,587,302	93,344,190
1882.....	3,158,635,824	104,971	3,335,343,323	770,209,899	280,316,666	154,495,380	102,023,534
1883.....	3,768,606,183	110,414	3,900,879,914	823,727,924	293,367,285	173,139,064	102,052,584
1884.....	3,702,616,186	115,672	3,669,115,772	770,684,908	263,100,258	176,694,302	102,203,852
1885.....	3,817,667,832	123,330	3,705,727,666	872,567,833	260,493,931	187,426,035	77,672,105
1886.....	3,999,508,508	125,128	3,882,966,330	859,940,236	334,603,564	189,056,304	81,654,138
1887.....	4,101,502,029	137,028	4,180,943,116	940,150,702	334,986,110	203,790,352	91,573,458
1888.....	4,438,411,342	145,387	4,624,035,023	960,256,270	301,631,051	207,124,388	86,243,041
1889.....	4,495,099,318	152,745	4,828,305,771	1,003,736,566	322,284,686	219,877,150	81,204,029
1890.....	4,610,239,578	158,735	5,105,902,025	1,090,042,560	346,921,318	226,799,681	85,075,705
1891.....	4,890,176,651	164,324	5,223,205,074	1,138,024,459	356,209,880	231,250,810	90,719,757
1892.....	4,920,555,225	170,668	5,463,611,204	1,204,015,204	358,638,520	232,569,089	95,602,412
1893.....	5,086,032,994	173,433	5,570,202,613	1,222,618,290	364,591,109	239,616,284	95,337,681
1894.....	5,075,629,070	175,508	5,665,734,249	1,080,305,015	322,539,276	237,620,367	85,278,669
1895.....	5,231,373,852	179,887	5,712,032,517	1,105,834,267	327,505,716	242,043,243	83,175,774
1896.....	5,200,720,046	180,891	5,426,074,060	1,125,531,025	332,333,756	243,415,404	81,364,854
1897.....	5,453,782,046	181,133	5,411,058,515	1,132,866,626	318,170,195	231,048,619	82,630,989
1898.....	5,555,522,858	184,194	5,635,353,594	1,249,558,724	389,666,474	237,133,099	94,937,326

Railroad Facts.—One million persons are employed by the railroads of the United States. The cost of a palace sleeping-car is \$15,000, or if "vestibuled," \$17,000. The cost of constructing a first class passage car is about \$4,425. The average cost of constructing a mile of railroad in the United States, at the present time, is about \$30,000. The average daily earning of an American Locomotive is about \$100. The "consolidation" locomotive weighs 50 tons and is able to draw on a level over 2,400 tons. The longest mileage operated by a single system is that of the Union Pacific—10,928 miles. The line of railroad which extends farthest east and west is the Canadian Pacific, running from Quebec to the Pacific Ocean. There are 60 miles of snow-sheds on the Central Pacific Railroad. The highest railroad in the United States is the Colorado Midland, at the Continental Divide—11,530 feet.

Telescopes.—The principal telescopes of the world are Halsted, Princeton, N. J., aperture, 23 in. ; Greenwich Observatory, England, aperture, 26 in. ; University of Vienna, Austria, aperture, 26 in. ; University of Virginia, aperture, 26 in. ; Naval Observatory, Washington, aperture, 26 in. ; Military Observatory, Russia, aperture, 30 in. ; Lick Observatory, Mount Hamilton, Cal., aperture, 36 in. ; Yerkes Observatory, William's Bay, Wis., aperture, 40 in. Another monster telescope is now in the course of construction for the new Allegheny Observatory, the object glass of which is to be 32 in. in diameter. The largest telescope ever undertaken is in the course of construction in Paris. It has two *object glasses each 4 feet in diameter and each weighing 1,600 pounds. The tube is nearly 200 ft. long.*

CANALS OF THE UNITED STATES

DATE OF COMPLETION, AND COST OF CONSTRUCTION, LENGTH, NUMBER OF LOCKS, NAVIGABLE DEPTH, ETC.

When Completed	CANALS	Cost of Construction	No. of Locks	Length in Miles	Location
1860	Albemarle and Chesapeake.....	\$1,641,363	1	7½	Norfolk, Va., to Currituck Sound, N. C.
1847	Augusta.....	1,600,000	..	11	Savannah River, Ga., to Augusta, Ga.
1849	Black River.....	3,581,954	109	4	Rome, N. Y., to Lyons Falls, N. Y.
1839	Cayuga and Seneca.....	2,232,632	11	7	Montezuma, N. Y., to Cayuga and Seneca Lakes, N. Y.
1822	Champlain.....	4,044,000	32	6	Whitehall, N. Y., to Waterford, N. Y.
1849	Chesapeake and Delaware.....	3,730,230	3	9	Chesapeake City, Md., to Delaware City, Del.
1860	Chesapeake and Ohio.....	11,290,327	23	6	Cumberland, Md., to Washington, D. C.
1847	Companies.....	90,000	1	6	Mississippi River, La., to Bayou Black, La.
1838	Delaware and Raritan.....	4,888,749	14	7	New Brunswick, N. J., to Trenton, N. J.
1830	Delaware Division.....	2,413,350	33	6	Easton, Pa., to Bristol, Pa.
1877	Des Moines Rapids.....	4,582,009	3	5	At Des Moines Rapids, Mississippi River.
1822	Dismal Swamp.....	2,800,000	7	6	Connects Chesapeake Bay with Albemarle Sound.
1845	Erie.....	53,540,800	72	7	Albany, N. Y., to Buffalo, N. Y.
1845	Fairfield.....	45	None.	..	Alligator River to Lake Mattamuskeet, N. C.
1851	Galveston and Brazos.....	340,000	3½	3½	Galveston, Tex., to Brazos River, Tex.
1843	Hocking.....	975,481	26	4	Carroll, O., to Nelsonville, O.
1848	Illinois and Michigan.....	7,357,767	15	6	Chicago, Ill., to La Salle, Ill.
1865	Illinois and Mississippi.....	508,643	3	7	Around lower rapids of Rock River, Ill., connects with Mississippi River.
1851	Lehigh Coal and Navigation Co.....	4,455,000	57	6	Coalport, Pa., to Easton, Pa.
1872	Louisville and Portland.....	5,578,631	2	..	At Falls of Ohio River, Louisville, Ky.

CANALS OF THE UNITED STATES—CONTINUED

WITH DATE OF COMPLETION, AND COST OF CONSTRUCTION, LENGTH, NUMBER OF LOCKS, NAVIGABLE DEPTH, ETC.

When Completed	CANALS	Cost of Construction	Length in Miles	No. of Locks	Depth in Feet	Location
1835	Miami and Erie.....	8,662,680	274	93	5½	Cincinnati, O., to Toledo, O.
1836	Morris.....	6,000,000	103	33	5	Easton, Pa., to Jersey City, N. J.
1889	Muscle Shoals and Elk River Shoals.....	31,569,919	10	11	6	Big Muscle Shoals, Tenn., to Elk River Shoals, Tenn.
.....	Newberne and Beaufort.....	.....	3	None	..	Clubfoot Creek to Harlow Creek, N. C.
1840	Ogeechee.....	467,818	16	5	3	Savannah River, Ga., to Ogeechee River, Ga.
1855	Ohio.....	4,695,304	317	150	4	Cleveland, O., to Portsmouth, O.
1858	Oswego.....	5,239,526	38	18	7	Oswego, N. Y., to Syracuse, N. Y.
1859	Pennsylvania.....	7,731,750	193	71	6	Columbia, N. Y., to Maitland, N. Y.
1873	Portage Lake and Lake Superior.....	538,892	25	None	15	barre, Huntingdon, Pa.
1899	Port Arthur.....	.....	7	..	26	From Keweenaw Bay to Lake Superior.
1880	Santa Fe.....	70,000	10	..	5	Port Arthur, Tex., to Gulf of Mexico.
1895	Sault Ste. Marie.....	4,000,000	3.3	1	18	Waldo, Fla., to Melrose, Fla.
.....	Schuykill Navigation Co.....	12,461,600	108	71	6½	Connects Lake Superior and Huron, at St. Mary's River.
1886	Sturgeon Bay and Lake Michigan.....	99,661	1.3	1	15	Mill Creek, Pa., to Philadelphia, Pa.
1881	St. Mary's Falls.....	7,909,607	1.3	1	21	Between Green Bay and Lake Michigan.
1890	Susquehanna and Tidewater.....	4,691,345	45	32	5½	Connects Lake Superior and Huron at Sault Ste. Marie, Mich.
.....	Walbonding.....	607,269	25	11	4	Columbia, Pa., to Havre de Grace, Md.
1840	Welland.....	23,796,353	26.8	55	14	Rochester, O., to Roscoe, O.
1843	.....	.....	.....	.....	.....	Connects Lake Ontario and Lake Erie.

The Harlem River Ship Canal, connecting the Hudson River and Long Island Sound, was opened for traffic June 17, 1895, and cost \$2,700,000.

The Suez Canal is 92 miles long, and cost \$102,750,000.

The Manchester Ship Canal, 35.5 miles long, cost about \$77,000,000.

The Kiel Canal, 61 miles in length, connects the North Sea with the Baltic, and is of great strategic as well as of commercial importance. It cost about \$37,750,000.

Panama Canal. Not yet completed. Length, 46.5 miles. Nearly finished from Colon to Bujeo, 14 miles. Width, 160 feet at the top, and 72 feet at the bottom. About \$275,000,000 have already been spent upon it. It is estimated that it could be completed in ten years at an additional cost of \$100,000,000. Designed to connect the Atlantic and Pacific Oceans.

Nicaragua Canal. Projected ship waterway to connect the Atlantic and Pacific Oceans by way of Lake Nicaragua. Extreme length, 189.9 miles; depth of canal, 30 feet; width at bottom, 100 feet. Estimated time of passage, 44 hours; estimated cost of construction, \$125,000,000; time to build, seven years. Distance from New York to San Francisco around Cape Horn, 15,660 miles; by way of Nicaragua Canal, 4,907 miles, a saving of 10,753 miles.

The Greatest Ocean Depths yet measured are one of 4,855 fathoms off the northeast coast of Japan; one of 4,475 fathoms south of the Ladrone Islands; one of 4,561 fathoms north of Porto Rico, and two of 4,295 and 4,430 fathoms to the south of the Friendly Islands. (A fathom — 6 feet in length.)

CANALS—THEIR LENGTH AND COST

The following table comprises the canals of the United States and Canada of which the cost has exceeded \$1,000,000 each :

NAME	State	Length in Miles	Cost
Erie	New York.	163	\$7,143,780
Champlain	"	63	1,257,604
Chenango	"	97	2,419,956
Central Division, public	Penna.....	173	5,307,252
Western	"	104	3,096,522
Susquehanna Division, public	"	39	1,039,256
N. Branch	"	73	1,096,178
N. Branch Extension	"	90	3,528,302
Delaware Division	"	60	1,275,715
Schuylkill " private	"	108	2,500,176
Lehigh	"	85	4,455,099
Union	"	82	.....
Del. and Hudson	N. Y. & Pa..	108	2,500,000
" " enlarged	"	108	6,500,000
Del. and Raritan feeder	New Jersey.	43	2,844,103
Morris and Essex	"	101	3,100,000
Chesapeake and Delaware	Del. & Md	13½	2,750,000
Chesapeake and Ohio	Maryland...	191	10,000,000
Ohio and Erie	Ohio.....	307	4,695,824
Miami	"	178	3,750,000
Sandy and Beaver	"	76	1,500,000
James River and Kanawha	Virginia	147	5,020,050
Wabash and Erie	Indiana.....	379	.....
"	"	90	3,057,120
Illinois and Michigan	Illinois.....	102	8,654,337
Welland	Canada.....	36	7,000,000
St. Lawrence	"	10	1,000,000
Cornwall	"	12	2,000,000
Beauharnois	"	11	1,500,000
Lachine	"	8¾	2,000,000

Newspapers.—It is estimated that about 50,000 newspapers are now published throughout the world. Of these Canada and the United States publish 2,256 ; Germany about 6,000 ; Great Britain, 8,000 ; France, 4,300 ; Japan, 2,000 ;

Italy, 1,500; Austria-Hungary, 1,200; Asia, not including Japan, 1,000; Spain, 850; Russia, 800; Australia, 800; Greece, 600; Switzerland, 450; Holland, 300; Belgium, 300; all others about 1,000. More than half of the newspapers of the world are printed in the English language.

TELEGRAPH STATISTICS OF THE WORLD

COUNTRIES	Miles of Line	COUNTRIES	Miles of Line
Algeria.....	3,645	Montenegro.....	280
Austria-Hungary.....	32,684	Netherlands.....	2,660
Bavaria.....	5,215	New South Wales.....	10,000
Belgium.....	3,713	New Zealand.....	4,074
Bolivia.....	182	Nicaragua.....	800
Brazil.....	4,888	Norway.....	5,629
Bulgaria.....	1,325	Orange Free State.....	276
Canada.....	23,330	Paraguay.....	45
Cape of Good Hope.....	4,031	Persia.....	3,647
Chili.....	6,840	Peru.....	550
China.....	3,089	Portugal.....	2,920
Columbia.....	2,357	Queensland.....	6,614
Costa Rica.....	450	Roumania.....	3,000
Cuba.....	2,835	Russia.....	65,726
Denmark.....	2,283	San Salvador.....	750
Dutch East Indies.....	3,682	Servia.....	1,405
Egypt.....	3,222	South Australia.....	5,278
France.....	46,952	Spain.....	10,733
Germany.....	47,637	Sweden.....	5,347
Great Britain and Ireland..	27,604	Switzerland.....	4,270
Greece.....	3,720	Tasmania.....	1,273
Guatemala.....	2,880	Transvaal.....	110
Hawaii.....	175	Tunis.....	2,500
Honduras.....	1,800	Turkey.....	14,617
India, British.....	21,740	United States.....	225,764
Italy.....	17,258	Uruguay.....	1,405
Japan.....	4,733	Victoria.....	3,600
Luxemburg.....	196	Western Australia.....	2,359
Mexico.....	19,000		
		Total Miles.....	673,168

One Horse Power is the strength necessary to lift 33, pounds one foot per minute.

TELEGRAPH MILEAGE

NUMBER OF OFFICES AND MESSAGES SENT.—WESTERN UNION TELEGRAPH COMPANY

	Miles of Line	Number of Offices	Messages sent	Receipts	Expenses
1870.....	54,109	3,973	9,157,646	\$7,138,738	\$4,910,772
1880.....	85,645	9,077	20,215,509	12,782,895	6,948,957
1890.....	183,917	19,382	55,878,762	22,387,029	15,074,304
1894.....	190,303	21,166	58,632,237	21,852,655	16,060,170
1895.....	189,714	21,360	58,307,315	22,218,019	16,076,630
1896.....	189,918	21,725	58,760,444	22,612,736	16,714,756
1897.....	190,614	21,769	58,151,684	22,638,859	16,906,656
1898.....	189,847	22,210	62,173,749	23,915,733	17,825,582

TELEPHONE MILEAGE

EXCHANGES, RENTALS, ETC., AS REPORTED BY THE AMERICAN BELL TELEPHONE COMPANY

	Exchanges	Branch Offices	Miles of service wire	Number of Subscribers
1891.....	774	467	240,412	202,931
1892.....	788	509	266,456	216,017
1893.....	812	539	307,791	232,140
1894.....	838	571	353,480	237,186
1895.....	867	572	396,674	243,432
1896.....	927	686	459,728	281,695
1897.....	967	832	536,845	325,244
1898.....	1,025	937	626,400	384,230

In 1897 the number of instruments rented was 919,121; the capital of this company was \$25,886,300; its gross earnings, \$5,130,845; its net earnings, \$4,169,875. On January 1, 1900, the value of the profits of this company was estimated at \$225,000,000.

Wireless Telegraphy.—In April, 1899, Signor Marconi, an Italian inventor, transmitted wireless messages across

the Channel from France to England, a distance of 32 miles; and in September following he came to New York to report, by his system of wireless telegraphy, the International Yacht Race. Suitable apparatus was located aboard two steamships which followed the yachts, and receiving stations were placed, one on the cable ship Mackay-Bennett, anchored near the Sandy Hook flagship, and the other on the shore of the Highlands of Navesink, where bulletins were received on the Morse tape recorder. They were then translated and telegraphed to New York City over the submarine cable, the end of which was connected with telegraph instruments aboard the Mackay-Bennett. The results were very satisfactory. The signal corps of the army made several experiments with Marconi's system with a view to its adoption for military use. The Navy Department also appointed a board of officers to report on tests made with the system. Neither of these tests was entirely successful.

Electric Lighting.—Conservative estimates place the value of the capital invested in electric lighting in Greater New York on January 1, 1900, at \$25,000,000, and in the entire country at \$1,000,000,000.

TELEGRAPH RATES TO FOREIGN COUNTRIES

The lowest rates are as follows: From New York to England, France, Germany, Holland, Ireland, Scotland, Belgium, and Havana, 25 cents per word. The costliest rates are to China, \$1.60 per word; to Japan, \$1.76 per word; to Venezuela, \$1.60; to Corea, \$1.96.

Mileage.—The number of miles of telegraph wire in the United States in 1866 was 75,686, and in 1899 it had in-

creased to 904,663 miles. The average toll per message in 1868 was \$1.047, and in 1899 was \$.308.

General Growth.—The following figures will give the general growth in the use of telegraph service in the several countries named, the first number being for 1870 and the second for 1896: Norway, 466,700, increased to 2,000,000; Sweden, 590,300, to 3,000,000; Denmark, 513,623, to 1,502,965; Germany, 8,207,800, to 32,134,472; Netherlands, 1,837,800, to 4,385,010; Belgium, 1,998,800, to 8,307,193; France, 5,663,800, to 52,000,000; Switzerland, 1,629,235, to 5,000,000; Spain, 1,050,000, to 4,084,704; Italy, 2,189,000, to 8,842,383; Austria, 3,388,249, to 12,602,632; United States, 9,157,646 to 70,000,000; Great Britain and Ireland, 9,650,000, to 78,839,610.

It is estimated that \$250,000,000 are invested in telegraphs in the United States.

TELEPHONE

The Bell Telephone Company, which controls a very large proportion of the telephone business of the United States, makes the following report for 1899: Number of exchanges, 1,126; miles of wire on poles, 396,503; miles of wire on buildings, 15,329; miles of wire underground, 358,184; miles of wire submarine, 2,973. Total number of miles of wire, 772,989. The number of instruments in the hands of licensees at the beginning of 1899 was 1,124,846. The capital stock of the company is \$25,886,300. The property of the company represents a value of about \$225,000,000.

On January 1, 1898, Germany had 173,981 telephone stations; Sweden and Norway, 52,930; France, 45,000; Russia, 20,108; all of Continental Europe, 465,180; Great Britain, in 1899, had 103,084, and the United States, in the same year, had 465,180.

RAILROAD SPEED

LONG RUNS

Date	RAILROAD	Distance, miles	Miles per hour
May 1848	Great Western (Eng.).....	53	68
Aug. 1888	London, N. W. & Caledonian	400	52.4
Sept. 1891	N. Y. Central & H. R.	436	59.5
Nov. 1891	Pennsylvania.....	227	54.2
Mar. 1892	N. Y. Central & H. R.	21	72.6
May 1893	N. Y. Central & L. S.	964	48.2
Aug. 1894	Atlantic Coast Line.....	661	51.4
April 1895	Pennsylvania	58	76.5
Aug. 1895	London & Northwestern.	540	63.2
Oct. 1895	Long Island.....	104	58.9
Mar. 1896	Phila., Wil. & Baltimore.....	93	63
Feb. 1897	Chicago, Bur. & Quincy.....	1,025	58.7
Mar. 1897	Central R. R. of N. J.	231	60
April 1897	Lehigh Valley.....	44	80
Aug. 1897	Union Pacific.....	201	63.4
May 1898	Chicago & Alton.....	168	60.7
Oct. 1899	Burlington Route.....	74	68.5

SHORT DISTANCE RUNS

July 1890	Philadelphia & Reading.....	4.1	98.4
Nov. 1892	Central R. R. of N. J.	1	97.3
May 1893	N. Y. Central & H. R.	1	112.5
Aug. 1895	Pennsylvania.....	5.1	102
Jan. 1899	Burlington Route.....	2.4	108

The fast express trains of the New York Central run from New York to Albany, 143 miles, in 160 minutes, and to Buffalo, 440 miles, in 489 minutes. The run from New York to Washington, by the Baltimore & Ohio, 225.3 miles, is made in 5 hours; and by the Pennsylvania, 227 miles, in 5 hours and 5 minutes. In June, 1876, the Jarrett and Palmer theatrical train made the run from Jersey City to San Francisco in 3 days, 7 hours, 39 minutes and 16 seconds.

The speed of trains is affected by the grade, the number

of cars in the train, the curvature of the track, the number of stops and slow-ups, and the distance.

The average speed of express trains in England is 51.75 miles per hour ; in Germany, 51.25 ; in France, 49.88 ; in Belgium, 45.04 ; in Holland, 44.73 ; in Italy, 42.34 ; in Austria-Hungary, 41.75.

LARGE STEAMSHIPS

Name	Length in feet	Breadth	Depth	Dis- place- ment	In- di- cated Horse Power	Speed (Knots)
Great Eastern.....	680	83	57.6	27,000	8,000	13.5
Oceanic.....	685	68	49.6	28,500	28,000	20
Deutschland.....	662.6	67.6	44	23,000	35,000	23
Kaiser Wilhelm der Grosse.....	625	66	43	19,684	27,000	22.5
Lucania.....	600	65	41.6	19,000	30,000	22

The Great Eastern was for many years the wonder of the ocean, but the Oceanic, of the White Star Line, is larger in every way except in breadth of beam. The difference in the plan of construction accounts for the difference in depth. The Great Eastern, constructed on the plan of the Oceanic, would have a depth of 48 feet, or 1.6 feet less than the Oceanic ; and the Oceanic, built on the plan of the Great Eastern, would exceed that vessel in molded depth by several feet. The Oceanic has seven decks ; the Great Eastern had but four. The Great Eastern's side wheels were 56 feet in diameter, and her single screw 24 feet. She burned 400 tons of coal per day when run at full speed. She cost \$4,250,000 to build, but proved a failure, owing chiefly to her lack of speed and power. The Oceanic cost \$5,000,000.

In January, 1900, President Hill, of the Great Northern, announced that four vessels were under contract for the Oriental trade, each to be 730 feet in length, 74 feet amidships, and 50 feet from deck to water line, with a capacity of 22,000 tons.

In 1898 the number of vessels passing through the Suez Canal was 2,986, of which 1,905 were British and 3 American.

In the last six months of 1898 the steam and sailing vessels built in the United States aggregated 130,000 gross tons, against 45,000 tons for the corresponding period of 1897.

LARGE PASSENGER STATIONS

Train Sheds	Number of Tracks	Length, feet	Width, feet
St. Louis, Union Station.....	30	630	600
Philadelphia, Penna. R. R.....	16	592	300
Philadelphia, Phila. and Reading R. R.....	14	800	260
Boston, North Union Station.....	23	500	460
Boston, South Terminal.....	30	710	650
New York, Grand Central.....	21	620	332
Chicago, Central Station.....	8	650	140
Chicago, Grand Central.....	6	600	150

How to Tell the Speed of a Train.—A distinct click is heard every time the car-wheel passes over a rail-joint. With watch in hand, count the number of clicks in twenty seconds, and that will be the number of miles the train is going per hour.

A Large Locomotive.—The largest passenger engine ever built was by the Rhode Island Locomotive Works, for the New York, Providence and Boston Railroad Company. *The main driving wheels are six feet in diameter and set but seven feet six inches apart. This arrangement makes her*

run easily on curves. The cylinders are eighteen inches in diameter, with twenty-four-inch stroke. The boiler is fifty-four inches in diameter at the smoke-stack, with a wagon top. It extends to the very end of the cab, and necessitates the elevation of the engineer's seat to a height far above the fire-door. The fire required three tons of coal before the engine pulled out of the round-house to make her trips, and four tons will be carried on the tender. The tank of the latter will hold 4,000 gallons of water, and the total weight of the engine proper is 93,000 to 95,000 pounds. The weight on the driving wheel will be 66,000 pounds. She will make the run from Providence to Croton, Conn., a distance of 62.5 miles, including a dead stop at Mystic drawbridge, in 62.5 minutes, pulling eight cars, four of which are Pullmans.

SWIFT ATLANTIC PASSAGES

BETWEEN NEW YORK AND QUEENSTOWN, 2,778 MILES

Date	Steamer	Time			Date	Steamer	Time		
		d.	h.	min.			d.	h.	min.
1856	Pernia.....	9	1	45	1891	Teutonic.....	5	16	31
1866	Scotia.....	8	2	48	1892	City of Paris....	5	14	24
1876	Germanic.....	7	11	37	1893	Campania..	5	12	7
1884	America.....	6	10	0	1894	Lucania.....	5	7	23
1888	Etruria.....	6	1	55					

OTHER LINES

Date	Steamer	Time			
		d.	h.	min.	
1897	Kaiser Wilhelm der Grosse....	5	17	8	New York to Southampton.
1892	La Touraine....	6	14	26	Havre to New York.
1896	St. Paul.....	6	0	31	Southampton to New York.
1897	St. Louis.....	6	10	14	New York to Southampton.
1898	Fürst Bismarck.	6	10	25	New York to Southampton.

Things Worth Knowing

SAILING VESSELS

Vessel	Time			Course
	d.	h.	min.	
Dreadnaught.....	13	8	0	New York to Liverpool.
Red jacket.....	13	11	25	New York to Liverpool.
Young America.....	18	0	0	New York to Liverpool.
A. G. Roper.....	19	0	0	New York to Liverpool.

AVERAGE VELOCITIES

Feet Per Second		Miles Per Second	
A fast runner.....	23	The Sun.....	55
A fly.....	24	The Earth.....	18
A carrier pigeon.....	87	Electricity—Telegraph.....	7,000
A locomotive.....	88	Copper-wire armature.....	21,000
Swallows.....	220	Light.....	102,000
Cyclones.....	380	The discharge of Leyden jar through heavy copper wire.	277,000
Earth at the Equator.....	1,500		
The moon.....	3,250		

Miles Per Hour		Miles Per Hour	
A man walks.....	3	A gentle breeze.....	3
A horse trots.....	7	A moderate wind.....	7
Rapid river flows.....	3	A storm.....	50
A vessel sails.....	10	A hurricane.....	80
A horse runs.....	20	Sound moves.....	778
A steamboat runs.....	20	A rifle ball.....	1,400

STRENGTH OF ICE

Recently formed ice $1\frac{1}{2}$ inches thick will support a man ;
 4 inches thick will support cavalry ; 5 inches will support
 an 84 pounder cannon ; 10 inches will support an army ; 18
 inches will support a railroad train.

IV. RACES OF MANKIND, GOVERNMENTS, LANGUAGES, ETC.

RACES OF MANKIND.

The White Race, as arranged by the leading ethnologists, includes the Teutonic Family (Scandinavians, Germans, English); the Latin Family (French, Spaniards, Italians, Moldo-Wallachians); the Slavonian Family (Russians, Finns, Bulgarians, Servians, Magyars, Croats, Tchecks, Poles, and Lithuanians); the Greek Family (Greeks, Albanians). The foregoing comprise the European branch of the white race. The following comprise the Aramean branch. The Libyan Family (Egyptians, Berbers); the Semitic Family (Arabs, Jews, Syrians); the Persian Family (Persians, Afghans, Kurds, Armenians, Ossetines); the Georgian Family (Georgians); the Circassian Family (Circassians, Mingrelians).

The Yellow Race embraces three branches, the Hyperborean, the Mongolians, and the Sinaic. The first branch includes the Lapp Family (Samoiede, Kamtschadale, Esquimaux, Tenissian, Jukaghirite, and Koriak families). The Mongolian branch includes the Mongol Family (Mongols, Kalmucks, Buriats); the Tunguse Family (Tunguses, Manchus); the Turk Family (Turcomans, Kirghis, Nogays, Osmanlis); the Yakut Family (Yakuts). The Sinaic branch includes the Chinese Family (Chinese); the Japanese Family (Japanese); The Indo-Chinese Family (Burmese, Siamese).

The Brown Race is also subdivided into three branches, the Hindoo, the Ethiopian, and the Malay. The Hindoo branch includes the Hindoo Family (Sikhs, Jats, Rajas,

poots, Mahrattas, Bengalese, Cingalese) ; the Malabar Family (Malabars, Tamals, Telingas). The Ethiopian branch includes the Abyssinian Family (Abyssinians, Berabras, Galas) ; the Fellan Family (Fellans). The Malay branch includes the Malay Family (Malays, Javanese, Battas, Bougis, Maccassars, Dyaks, Togals) ; the Polynesian Family (Maoris, Tongas, Tahitians, Pomotouans, Marquesans, Sandwichians) ; and the Micronesian Family (Ladrone, Caroline and Mulgrave Islanders).

The Red Race includes two branches, the Southern and the Northern. The Southern branch includes the Andian Family (Incas, Antis, Andians, Araucanians) ; the Pampean Family (Patagonians, Puelches, Charruas, Tobas, Moxas, Abipous, etc.) ; the Guarani Family (Guaranis, Bocotudos). The Northern branch includes the Southern Family (Aztecs, Mayas, Lencas, Othomis, Tatascas, etc.) ; the Northeastern Family (Cherokees, Hurons, Iroquois, Sioux, Apaches, Comanches, Creeks, etc.) ; and the Northwestern Family (Chinooks, Digger Indians, Nootkans, etc.).

The Black Race is divided into two branches. The Western branch includes the Caffre Family, the Hottentot Family, and the Negro Family. The Eastern branch includes the Papuan Family (Fijians, New Caledonians, etc.), and the Andaman Family (Andamans and Australians).

GOVERNMENTS

As to their form the governments of the world may be classified as follows : Absolute monarchies,—China, Corea, Morocco, Persia, Russia, Siam, Turkey ; Limited monarchies,—*Austria-Hungary*, Belgium, British Empire, Denmark, Germany, Greece, Italy, Japan, Netherlands, Portugal,

Roumania, Servia, Sweden and Norway, Spain ; Republics, —Argentine Republic, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, France, Guatemala, Hayti, Honduras, Mexico, Nicaragua, Paraguay, Peru, Salvador, San Domingo, Switzerland, United States of America, Uruguay, Venezuela.

LANGUAGES

In 1801, of the whole population of the world the proportion or percentage speaking English was 12.7 per cent.; French, 19.4 per cent.; German, 18.7; Italian, 9.3; Spanish, 16.2; Portuguese, 4.7; Russian, 19 per cent. In 1890 the percentage was: English, 27.7; French, 12.7; German, 18.7; Italian, 8.3; Spanish, 10.7; Portuguese, 3.2; Russian, 18.7. One authority estimates the number of people using the English language in 1895 at 124,130,000. A comparison of the years will show the growth or the decrease of influence of the different nations.

COLLEGES

The University of Oxford, Eng., is said to have been founded by King Alfred in 872; University of Paris was founded by King Philip II. about 1200; the first college of the University of Cambridge was founded by Hugo, Bishop of Ely, in 1257; the first German University was founded at Prague, in 1348; University of Edinburgh was founded in 1582; Trinity College, Dublin, was incorporated by royal charter in 1591; Harvard University, Cambridge, Mass., was founded in 1636; Yale University was founded in 1700 at Saybrook, Conn., and removed to New Haven in 1716; *William and Mary College* was established in 1617, and its *charter was granted in 1693*. The first common schools

established by legislation in America were in Mass. in 1645; the first town schools were opened at Conn., prior to 1642.

GREEK LETTER SOCIETIES

In the United States there are 28 college Greek societies, with a membership of 100,000, having 6 chapters and 350 inactive. The oldest college fraternity is Kappa Alpha, founded in Union College, Sch. N. Y., in 1825. There are 11 women's college fraternities, the oldest being the Pi Beta Phi, founded at M. College in 1867.

V. COMMERCIAL PRODUCTS

PRODUCTION OF GOLD AND SILVER IN THE UNITED STATES SINCE THE DISCOVERY OF GOLD IN CALIFORNIA

Year	Gold	Silver
1849.....	\$40,000,000	\$50,000
1850.....	50,000,000	50,000
1851.....	55,000,000	50,000
1852.....	60,000,000	50,000
1853.....	65,000,000	50,000
1854.....	60,000,000	50,000
1855.....	55,000,000	50,000
1856.....	55,000,000	50,000
1857.....	55,000,000	50,000
1858.....	50,000,000	500,000
1859.....	50,000,000	100,000
1860.....	46,000,000	150,000
1861.....	43,000,000	2,000,000
1862.....	39,200,000	4,500,000
1863.....	40,000,000	8,500,000
1864.....	46,100,000	11,000,000
1865.....	53,225,000	11,250,000
1866.....	53,500,000	10,000,000
1867.....	\$1,725,000	\$3,500,000

PRODUCTION OF GOLD AND SILVER IN THE UNITED STATES
SINCE THE DISCOVERY OF GOLD IN CALIFORNIA.—(Cont'd.)

Year	Gold	Silver	Total
1868.....	48,000,000	12,000,000	60,000,000
1869.....	49,500,000	12,000,000	61,500,000
1870.....	50,000,000	16,000,000	66,000,000
1871.....	43,500,000	23,000,000	66,500,000
1872.....	36,000,000	28,750,000	64,750,000
1873.....	36,000,000	35,750,000	71,750,000
1874.....	33,490,902	37,324,594	70,815,496
1875.....	33,467,856	31,727,560	65,195,416
1876.....	39,429,166	38,783,016	78,712,182
1877.....	46,847,390	39,793,573	86,600,963
1878.....	51,206,360	45,281,385	96,487,745
1879.....	38,899,853	40,812,132	79,711,990
1880.....	36,000,000	38,450,000	74,450,000
1881.....	34,700,000	33,000,000	77,700,000
1882.....	32,500,000	46,800,000	79,300,000
1883.....	30,000,000	46,200,000	76,200,000
1884.....	30,800,000	48,800,000	79,600,000
1885.....	31,800,000	51,600,000	83,400,000
1886.....	35,000,000	51,000,000	86,000,000
1887.....	33,000,000	53,357,000	86,357,000
1888.....	33,167,500	59,206,700	92,374,200
1889.....	32,967,000	64,768,730	97,735,730
1890.....	32,845,000	70,405,000	103,310,000
1891.....	33,175,000	75,417,000	108,592,000
1892.....	33,000,000	82,101,000	115,101,000
1893.....	39,955,000	77,576,000	117,531,000
1894.....	30,500,000	64,000,000	103,500,000
1895.....	46,610,000	72,051,000	118,661,000
1896.....	53,088,000	76,069,000	129,157,000
1897.....	57,363,000	69,637,000	127,000,000
1898.....	64,461,000	70,384,000	134,847,000
Total.....	2,137,675,032	1,481,004,720	3,618,679,752

The total coinage of the world, for 1898, was gold, \$395,477,905; and silver, \$149,282,935.

Confederate Money.—When the first issue of the Confederate money was scattered among the people, it commanded a slight premium. It then scaled down as follow

June, 1861, 90c. ; December 1, 1861, 80c. ; December 15, 1861, 75c. ; February 1, 1862, 60c. ; February 1, 1863, 20c. ; June 1863, 8c. ; January, 1864, 2c. ; November, 1864, 4½c. ; January, 1865, 2½c. ; April 1, 1865, 1½c. After that date, it took from \$800 to \$1,000 in Confederate money to buy a one-dollar greenback.

TOTAL COINAGE OF UNITED STATES MINTS

FROM 1792, WHEN THE FIRST MINT WAS ESTABLISHED IN PHILADELPHIA, TO
JUNE 30. 1899

Gold Coins

Double Eagles.....	\$1,479,704,120.00	Quarter-Eagles....	28,927,807.50
Eagles.....	303,751,100.00	Dollars... ..	19,499,337.50
Half-Eagles.....	254,560,530.00		
3 dollar pieces.....	1,619,376.00	Total	\$2,088,062,270.50

Silver Coins

Dollars.....	\$492,106,849.00	Dimes.....	\$ 34,228,800.80
Trade Dollars.....	35,965,924.00	Half-Dimes.....	4,880,219.40
Half-Dollars.....	141,254,276.50	3 cent pieces.....	1,282,087.20
Quarter-Dollars.....	60,891,781.25		
20 cent pieces.....	271,000.00	Total.....	\$770,880,938.15

Nickel, Copper, and Bronze

5 cent pieces, nickel..	\$16,044,061.20	1 cent pieces, nickel..	\$ 2,007,720.00
3 cent pieces, nickel..	941,349.48	1 cent pieces, bronze..	9,661,211.35
2 cent pieces, bronze..	912,020.00	½ cent pieces, copper..	39,926.11
1 cent pieces, copper..	1,562,887.44		
		Total.....	\$32,169,175.58

To the silver coinage must be added Columbian souvenir half-dollars, \$2,501,052.50, and quarter-dollars, \$10,005.75 issued in 1893.

IRON AND STEEL

PRODUCTION, EXPORTS, AND IMPORTS, UNITED STATES

Year	Pig Iron Production, Tons	Iron and Steel Manufactures	
		Exports	Imports
1880.....	3,835,191	\$15,422,874	\$63,956,853
1881.....	4,144,254	18,421,402	46,956,853
1882.....	4,623,323	22,580,791	68,715,689
1883.....	4,595,510	22,626,732	48,714,297
1884.....	4,097,868	19,290,895	37,078,122
1885.....	4,044,526	16,622,511	31,144,552
1886.....	5,683,329	14,865,087	41,630,779
1887.....	6,417,148	16,235,922	56,420,607
1888.....	6,489,738	19,578,489	42,311,689
1889.....	7,603,642	23,712,814	42,027,742
1890.....	9,202,703	27,000,134	44,544,140
1891.....	8,279,870	30,736,507	41,983,626
1892.....	9,157,000	27,900,862	33,879,877
1893.....	7,124,502	30,159,363	29,656,539
1894.....	6,657,388	29,943,729	20,843,576
1895.....	9,446,308	35,071,563	25,772,136
1896.....	8,623,127	48,670,218	19,506,576
1897.....	9,652,680	62,737,250	13,335,950
1898.....	11,773,904	82,771,550	12,474,572
1899.....	13,620,708	105,689,645	15,799,206

From this table it will be observed that the exports of iron and steel manufactures in the last ten years have increased nearly 500 per cent., while our imports have decreased nearly 60 per cent.

PRODUCT OF WINES AND LIQUORS IN THE UNITED STATES

In 1898, the production was as follows : Bourbon Whiskey, 13,439,459 gallons ; Rye Whiskey, 8,818,240 gal. ; Alcohol, 11,672,795 gal. ; Rum, 1,340,547 gal. ; Gin, 1,267,580 gal. ; Pure Neutral Spirits, 20,613,205 gal. ; Brandy, made from

apples, peaches and grapes, 2,906,198 gal.
 total production of distilled spirits between 1878 and 1899
 the year 1883, when the amount reached 131,010,000 gal.
 The production of wines in the United States in 1899 was
 24,306,905 gal., of which California produced 14,620,000 gal.,
 New York 2,528,250 gal.; Ohio, 1,934,838 gal.

MALT LIQUORS

The total quantity of Malt Liquors made and sold in the
 United States for the year ending June 30th, 1899, reached
 36,581,114 barrels. The production for 1896 in some of the
 leading cities of the United States was as follows: New
 York City, 4,918,808 barrels; Chicago, 3,198,222 barrels;
 Milwaukee, 2,222,818 barrels; St. Louis, 2,070,331; Phila-
 delphia, 1,996,743; Brooklyn, 1,926,828; Cincinnati, 1,217,
 343; Newark, 1,227,506; Boston, 1,224,524. The value of
 Spirits, Malt Liquors and Wines imported into the United
 States in 1899 was: Malt Liquors, \$1,456,971; Distilled
 Spirits and Compounds, \$2,158,538; Wines, \$6,516,126.
 The world's product of wine in 1897 was 2,843,478,920 gal.
 Of this, 73,976,000 gal. were produced in Chile. The con-
 sumption of wine for 1896, in the leading countries of the
 world, was: United Kingdom, 15,776,000 gal., or $\frac{1}{4}$ of a
 gallon per head of the population; France, 1,137,224,000
 gal., or 29.50 gal. per head of the population; Germany, 55,
 198,000 gal., or 1.06 gallons per head; the United States
 16,578,000 gal., or .22 gallons per head.

BEER PRODUCTION OF THE WORLD

The total number of breweries in the world in 1898 was
 40,959, and their output was 247,489,272 hectoliters

6,537,924,098 gallons of beer. In the same year the number of breweries in the United States was 1,978, with a total production of 52,801,822 hectoliters; Great Britain and Ireland, 8,072 breweries, with an output of 58,245,511 hectoliters; German Empire, 20,340 breweries, with an output of 66,415,320 hectoliters.

PERCENTAGE OF ALCOHOL IN WINES AND LIQUORS

In Beer, 4°; Porter, 4.5°; Ale, 7.4°; Cider, 8.6°; Bordeaux, 11.5°; Claret, 13.3°; Burgundy, 13.6°; Malaga, 17.3°; Sherry, 19°; Madeira, 21°; Port, 23.2°; Gin, 51.6°; Brandy, 53.4°; Rum, 53.7°; Irish Whiskey, 53.9°; Bourbon and Rye Whiskey, 54°; Scotch Whiskey, 54.3°.

CRUDE PETROLEUM

The total production of crude petroleum in the United States for 1898, was 1,034,249,876 gal., value \$56,125,578. The annual product of the world is about 5,000,000,000 gallons. The product of Russia is nearly equal to that of the United States. Large quantities are also produced in Austria, Sumatra, Java and Canada.

COAL

The estimated area of the coal fields of the world is as follows: China and Japan, 200,000 sq. miles; United States, 194,000; India, 35,000; Russia, 27,000; Great Britain, 9,000; Germany, 3,600; France, 1,800; Belgium, Spain and other countries, 1,400; total, 471,800. At the present rate of con

Things Worth Knowing

estimated that the coal areas now explored for the world's consumption for the year 1900, was as follows: United States, 196,282,000 tons; United Kingdom, 21,400,000 tons; France, 30,337,000; Belgium, 2,100,000; Russia, 4,063,000; Spain, 3,380,000; India, 3,000,000; Japan, 500,000. The latest reports from the United States and from New South Wales show the yield 1,855,000 tons for the year 1898-99. The production of coal in the United States is unreliable. The production of this country for 1898 was: West Virginia, 18,599,799 short tons; Illinois, 15,599,799; Ohio, 11,053,829; Coal and Territories of the Union. The yield of bituminous coal in the United States for 1898 was valued at \$188,110,351. The yield of anthracite coal valued at \$11,445,967. The coal produced in Kentucky yielded 10,889 tons, valued at \$1,100,000. The grand total was 213,106,579 tons.

1. 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348

the year ending March 1, 1900 the number of bags
of cotton produced in Chicago was 3,000,000; at Kansas
City and the west in Chicago 1,000,000; at St. Louis, 1,000,000;
at Chicago, 1,000,000; at Milwaukee, 1,000,000;
at Chicago, 1,000,000; at Kansas, 1,000,000. A number of
the bags received in Chicago ranging from 100,000 up to
1,000,000. The total of the year was 10,000,000.
The other quantities of cotton the bag produced in the

United States were exported for the year 1897-98 are : United Kingdom, 658,442,983 lbs. ; Germany, 73,105,235 lbs. ; Belgium, 66,170,918 lbs. The total exports to the various parts of the world for that year amounted to 950,652,157 lbs., valued at \$71,090,479. Lard is not included in the above.

POTATO AND HAY CROP

The hay crop of the United States in 1898 was estimated at 66,377,000 tons ; the potato crop at 192,306,000 bushels.

WHEAT AND CORN

The wheat crop of the world in 1898 was estimated at 2,670,-822,000 bushels. The United States takes the lead in the production of wheat with 597,294,000 bushels ; Russia, including Siberia and Asia Minor, follows with 374,550,000 bushels ; France, 350,431,000 bushels ; British India, 242,-890,000. The rye crop of the principal countries of the world in 1896 was as follows : Austria, 132,000,000 bushels ; Russia, 780,000,000 bushels ; France, 72,000,000 ; Germany, 284,000,000 ; Belgium, 20,000,000 ; Spain, 36,000,000 ; Netherlands, 12,000,000 ; Scandinavia, 68,000,000.

The total yield of corn in the United States for 1897 was 1,902,967,933 bushels, valued at \$501,072,952. The total yield of wheat in the same year was 530,149,168 bushels, valued at \$428,547,121. The acreage of wheat was 39,465,066. The yield of the five leading wheat-growing States for 1897 was Minnesota, 59,891,104 bushels ; Kansas, 47,998,152 bushels ; Ohio, 38,049,133 bushels ; Indiana, 32,675,201 bushels ; California, 32,394,020 bushels. Of corn, the yield of the five leading States for 1897, was : Nebraska, 241,268,490 bushels.

Illinois, 232,928,085 bushels; Iowa, 220,089,149
Missouri, 171,923,882 bushels; Kansas, 162,442,728

FARM ANIMALS

On January 1, 1899, there were in the United States 665,307 horses, valued at \$511,074,813; 2,134,214 mules valued at \$95,963,261; 15,990,115 milch cows valued at \$233,925; oxen and other cattle, 27,994,225, valued \$637,931,135; 39,114,453 sheep valued at \$107,697,538,651,631 swine, valued at \$170,109,743.

DAIRY PRODUCTS

In 1899 there were produced in the United States 20,247,997 pounds of butter valued at \$3,263,951, also 38,198,753 pounds of cheese valued at \$3,316,049.

TOBACCO

The latest reports concerning the tobacco crop in the United States makes the total acreage 523,103, with a product of 406,678,385 lbs., valued at \$27,760,739. The leading tobacco-growing state is Kentucky, with a yield of 183,618,425 lbs. The next States in order are N. Carolina, Virginia, Ohio, Tennessee, Pennsylvania.

FARMS

The total number of farms in the United States by the last census is 4,564,641, with an acreage of 623,218,619, and with an estimated value of products of \$2,460,107,454.

FISHERIES

The total value of the fisheries of the United States from

the latest census reports are \$45,312,818. The leading States are California, whose product was valued at \$3,044,731; Alaska, \$2,410,848; Maine, \$2,225,806; Maryland and District of Columbia, \$6,460,759; Massachusetts, \$7,531,794; New Jersey, \$3,625,890; New York, \$5,041,259; N. Carolina, \$1,027,669. These are the only States whose products reached \$1,000,000.

TEA

The estimated production of tea in 1888 by countries was as follows: China, 290,000,000 lbs.; India, 90,000,000; Japan, 40,000,000; Ceylon, 19,000,000; Paraguay, 10,000,000; Java, 7,000,000. The consumption of tea in 1892 was estimated as follows: Great Britain and Ireland, 201,000,000 lbs.; United States, 85,000,000; Russia, 71,000,000; Australia, 28,000,000; Canada, 20,000,000.

COFFEE

The total production of coffee in 1898-99 was as follows: Brazil (Rio, 3,000,000 bags of 132 lbs. each, Santos, 5,000,000, Victoria, Bahia, and Ceara, 720,000); Central America, 1,022,000; Venezuela, 900,000; Hayti, 485,000; Mexico, 325,000; Ceylon and British India, 267,000; Java, 244,000; Porto Rico, 260,000; British West Indies, 100,000. The consumption by countries according to the latest reports are as follows: United States, 320,000 tons; Great Britain, 12,000 tons; France, 77,000; Germany, 136,000; Belgium, 25,000; Austria, 40,000; Italy, 13,000. The English are the greatest tea drinkers among the western nations and the Americans the greatest coffee drinkers.

VI. TEMPERATURE, RAINFALL, ETC.

TEMPERATURE AND RAINFALL IN THE UNITED STATES, 1899

LOCALITY	TEMPERATURE			Annual Rainfall, Inches	LOCALITY	TEMPERATURE			Annual Rainfall, Inches
	Average	Highest	Lowest			Average	Highest	Lowest	
Ala., Mobile.....	67	101	-1	62	Mont., Poplar River...	32	110	-63	11
Ariz., Prescott.....	52	100	-18	16	Neb., Omaha.....	50	106	-32	32
Ark., Little Rock.....	62	105	-12	54	Nev., Winnemucca.....	48	104	-28	9
Cal., Sacramento.....	59	110	19	21	N. C., Charlotte.....	61	102	-5	52
Colo., Denver.....	49	105	-29	15	N. Dak., Bismark.....	36	105	-44	18
Conn., New Haven.....	49	100	-14	50	N. H., Manchester.....	46	96	-11	42
Del., Breakwater.....	53	93	1	33	N. J., Atlantic City.....	52	99	-7	43
D. C., Washington.....	55	104	-15	44	N. Mex., Santa Fe.....	47	97	-13	14
Fla., Jacksonville.....	70	104	-10	54	N. Y., New York.....	52	100	-6	45
Ga., Atlanta.....	62	100	-8	52	Ohio, Cincinnati.....	56	104	-17	40
Ida., Boise.....	50	107	-28	13	Ore., Portland.....	51	102	-2	47
Ill., Chicago.....	49	100	-23	35	Pa., Philadelphia.....	54	102	-6	40
Ind., Indianapolis.....	53	101	-25	43	R. I., Newport.....	50	92	-8	50
Ind. Ter., Fort Sill.....	59	107	-9	31	S. C., Charleston.....	67	104	7	57
Iowa, Des Moines....	40	104	-30	33	S. Dak., Yankton.....	44	103	-34	27
Kan., Leavenworth.....	53	107	-29	38	Tenn., Memphis.....	62	102	-9	53
Ky., Louisville.....	57	105	-20	46	Texas, El Paso.....	63	113	-5	9
La., New Orleans.....	70	90	7	61	Utah, Salt Lake.....	50	102	-20	16
Me., Eastport.....	40	91	-21	45	Vt., Burlington.....	45	97	-25	29
Md., Baltimore.....	56	104	-7	44	Va., Norfolk.....	60	102	2	52
Mass., Boston.....	48	101	-13	45	Wash., Olympia.....	50	97	-2	53
Mich., Port Huron.....	45	99	-25	32	W. Va., Morgantown.....	53	97	-25	47
Minn., St. Paul.....	44	100	-41	28	Wis., Milwaukee.....	44	100	-25	34
Miss., Vicksburg.....	65	101	-1	56	Wyo., Cheyenne.....	46	100	-38	12
Mo., St. Louis.....	55	106	-22	41					

The minus (—) sign indicates temperatures below zero.

Highest Temperatures.—Among 107 places officially reported, 81 reached or exceeded 100 degrees. The highest are Sacramento, Cal., 110; El Paso, Tex., 113; Red Bluff, Cal., 114; Yuma, Ariz., 118,

Lowest Temperatures.—The winter temperatures of the 107 places reported all fell below zero except 18 places; 31 exceeded a temperature of 25 degrees below zero; 13 ranged from 25 to 30 degrees below; 7 ranged from 30 to 40 below. Duluth and St. Paul report 41 below; Fort Bridges, 42; La Crosse, 43; Bismarck, 44; Fort Custer, 48; Williston, N. Dak., 49; St. Vincent, Minn., 54; Fort Nashakie, Wyo., 54; Havre, Mon., 55; and Poplar River, Mon., 63.

Extremes.—The greatest extremes of heat and cold are found in Montana, the difference being 173 degrees.

The least change of temperature reported is at Key West, 59 degrees, and Hatteras, N. C., 84 degrees.

Rainfall.—The greatest annual rainfall is at New Orleans, 51 inches, Mobile, 62, and Hatteras 66. The least rainfall is at Montrose, Col., 8.9 inches; Fort Bridges, Wyo., 8.7; Winnemucca, Nev., 8.5; and Frisco, Utah, 7.6 inches.

WEATHER FORECASTS

In the use of the aneroid barometer a rapid rise indicates unsettled weather; a gradual rise settled weather. A rise with southerly winds indicates fine weather. A steady barometer with dry air and seasonable temperature indicates a continuance of fine weather. A rapid fall of the barometer indicates stormy weather. A fall with northerly winds indicates storms, with rain or hail in summer, and snow in winter. A fall after very calm and warm weather indicates rain with squally weather.

PERPETUAL SNOW

At the Equator the snow line is found at 15,260 feet above

sea level. At 10 degrees north or south, 14,764 feet ; at 20 degrees, 13,478 feet ; at 30 degrees, 11,484 ; at 40 degrees, 9,000 ; at 50 degrees, 6,334 ; at 60 degrees, 3,818 ; at 70 degrees, 1,278.

TORNADOES

The destruction by tornadoes in the United States between the years 1890-97 amounted to \$23,047,750. The most destructive tornadoes were those in Kentucky in 1890 amounting to \$2,841,500 ; and in Missouri in 1896 amounting to \$12,904,900. The States in which the destruction has been greatest are Missouri, Kentucky, Illinois, Texas, Pennsylvania, Kansas, Arkansas. The States least disturbed by tornadoes within the period named are Florida, Wisconsin, and Virginia.

LIFE-SAVING SERVICE.

At the close of 1899 the life-saving establishment of the United States embraced 265 stations. Of these 193 were on the Atlantic coast, 56 on the Lakes, 15 on the Pacific coast, and one at the Falls of the Ohio. Since the introduction of the system in 1871, 11,170 disasters have been reported, involving property amounting to \$169,438,599. Of this \$132,021,447 were saved and \$37,407,152 were lost. The lives of 85,891 persons were involved, and of these only 908 were lost. In addition to the above, there were 294 casualties to smaller craft, such as sail boats, row-boats, etc., involving the lives of 671 persons, of whom 664 were saved and only 7 lost. The cost of the maintenance of the service during the *year ending June 30th, 1899* was \$1,509,831.

VII. AREA, POPULATION, RELIGION, AND FORM OF GOVERNMENT OF THE PRINCIPAL COUNTRIES OF THE WORLD

Country	Population	Area	Persons to Sq. Mile	Capital	Prevailing Religion	Government
Afghanistan	4,000,000	279,000	14.3	Cabul.....	Mohammedan.	Monarchy
Argentina Republic	4,044,990	1,005,013	2.2	Buenos Ayres.	Catholic.....	Republic
Austria	4,183,700	26,591	206.	Vienna.....	Catholic.....	Monarchy
Belgium	6,039,943	11,373	579.1	Brussels.....	Catholic.....	Monarchy
Bolivia	2,500,000	472,000	5.3	La Paz.....	Catholic.....	Republic
Brazil	18,500,000	3,219,000	4.5	Rio Janeiro.....	Catholic.....	Republic
British Empire	385,280,140	11,712,170	.....	London.....	Protestant.....	Empire
England	27,499,984	50,840	399.8	London.....	Catholic	
Ireland	4,766,448	32,583	144.4	Dublin.....	Protestant....	
Scotland	4,033,103	29,785	135.	Edinburgh.....		
Wales	1,504,034	7,470	173.9			
EUROPE:						
Gibraltar	26,203	2				
Malta	177,745	122				
IN ASIA:						
India	287,223,431	1,800,283	229.	Calcutta.....	Hindu.....	Empire
Ceylon	3,008,239	25,395	119.	Colombo.....	Buddhist.....	Empire
Cyprus	187,000	3,584	52.	Nicosia.....	Greek Church	
Cyprian Settlements	506,577	1,500	337.	Singapore		
Straits Settlements	221,441	30	.....	Victoria		
Hong Kong	199,853	34,101	.....		
Hong Dependencies						
Other IN ASIA:						
IN COLONY:						
Cape and Zululand	1,766,100	276,800	6.3	Cape Town....	Protestant	
Natal	828,500	34,700	2.4			
Natal Leone	300,000	15,000	20			
Natal Gold Coast	234,550,000	309,900	58	Free Town....	Protestant	
Sierra Leone	14,011,000	1,980,247	7.4			
Sierra Leone Dependencies						
Other	396,816	1,148				

AREA, POPULATION, RELIGION, AND FORM OF GOVERNMENT OF THE PRINCIPAL COUNTRIES OF THE WORLD—(Continued.)

Country	Population	Area	Persons to Sq. Mile	Capital	Prevailing Religion	Government
IN AMERICA:						
Newfoundland.....	198,000	42,200	4.7	St. John's.....	Protestant.....	Br. Colony
Dominion of Canada.....	4,823,875	3,655,946	1.3	Ottawa.....	Protestant	
Prince Edw. Island.....	109,078	2,000	54.5	Charlottetown.....	Protestant	
Nova Scotia.....	450,396	20,600	21.9	Halifax.....	Protestant	
New Brunswick.....	321,263	28,200	11.1	Fredericton.....	Catholic	
Quebec.....	1,488,535	347,350	4.3	Quebec.....	Protestant	
Ontario.....	2,114,321	222,000	9.6	Toronto.....	Protestant	
Manitoba.....	152,596	73,956	2.4	Winnipeg.....	Protestant	
British Columbia.....	98,173	383,300	0.3	Victoria.....	Protestant	
Oth'r Dependencies.....	98,967	2,572,540	0.04	Georgetown.....	Protestant	
British Guiana.....	282,000	76,000	3.7	Belize.....	Protestant	
British Honduras.....	28,000	7,562	3.7	Kingston.....	Protestant	
Jamaica.....	581,000	4,193	138	Port-of-Spain.....	Protestant	
Trinidad and Tobago.....	205,000	1,754	117	Bridgetown.....	Protestant	
Barbados.....	190,000	166	1,144	Nassau.....	Protestant	
Bahamas.....	48,000	5,794	8.3	Hamilton.....	Protestant	
Bermuda.....	16,000	41	390	Sydney.....	Protestant	
Other Islands.....	255,000	8,742	29			
IN AUSTRALASIA:						
New South Wales.....	1,335,800	310,700	4.3			

Area, Population, Religion, Etc.

61

Continued

Country	Population	Area	Persons to Sq. Mile	Capital	Prevailing Religion	Government
China.....	402,680,000	4,218,401	95	Peking.....	Buddhist.....	Empire
Colombia.....	4,600,000	231,420	7.7	Bogota.....	Catholic.....	Republic
Congo State.....	8,000,000	802,000	9.9			
Costa Rica.....	309,683	19,985	15	San Jose.....	Catholic.....	Republic
Cuba.....	1,600,000	41,655	38	Havana.....	Catholic.....	Monarchy
Denmark.....	2,172,205	14,780	143	Copenhagen..	Protestant....	Republic
Dominican Republic ..	600,000	20,596	29	San Domingo.	Catholic.....	Republic
Ecuador.....	1,300,000	144,000	9	Quito.....	Catholic.....	Republic
France.....	38,517,975	204,177	188.7	Paris.....	Catholic.....	Republic
Algeria.....	3,870,000	260,000	24	Algiers.....	Mohammedan	
Senegal.....	18,137	580,000	3	St. Louis.....	Mohammedan	
Tunisia.....	1,500,000	45,000	33	Tunis.....	Mohammedan	
Cayenne.....	26,502	45,697	46	Cayenne.....		
Camodia.....	1,500,000	34,254	89	Salgon.....		
Cochin-China.....	12,233,000	13,692	200	Hanoi.....		
Tongkin.....	12,000,000	60,000	89	Noumea.....		
New Caledonia.....	62,752	7,624	28	Papeiti.....		
Tahiti.....	12,800	402	7			
Sahara.....	1,100,000	1,550,000	15.2	Antananarivo.	Protestant....	Empire
Madagascar.....	3,500,000	230,000	15.2	Berlin.....	Protestant....	
Germania.....	52,279,901	211,108	250.5	Berlin.....		
Prussia.....	31,835,123	134,467	236.9	Munich.....		
Italy.....	5,589,382	29,291	198.7	Dresden.....		
Spain.....	3,500,513	5,789	654.5	Stuttgart.....		
Saxony.....	2,035,443	7,531	276.4	Karlsruhe.....		
Wurttemberg.....	1,636,817	5,803	296.4	Strasbourg.....		
Baden-Lorraine.....	1,603,987	5,602	293	Darmstadt.....		
Austria.....	956,170	2,965	350.3			
Algeria.....	5,950,000	822,000	7.2			
North Africa.....	3,943,099	17,234	228			
German Dependencies.....	2,433,866	24,977	97.3	Athens.....	Greek Church.	Monarchy
Other.....						

AREA, POPULATION, RELIGION, AND FORM OF GOVERNMENT OF THE PRINCIPAL COUNTRIES OF THE WORLD (Continued.)

Country	Population	Area	Persons to Sq. Mile	Capital	Prevailing Religion	Government
Guatemala.....	1,535,632	46,774	32	N. Guatemala.	Catholic.....	Republic
Haiti.....	1,211,625	59,530	40	Port au Prince	Catholic.....	Republic
Honduras.....	420,000	42,658	9.8	Tegucigalpa..	Catholic.....	Republic
Italy.....	26,669,785	110,665	286.2	Rome.....	Catholic.....	Monarchy
Colonies.....	5,271,000	315,100	16			
Japan.....	41,186,940	147,669	289	Tokio.....	Mohammedan	Empire.
Khiva.....	700,000	22,320	31	Khiva.....	Mohammedan	Monarchy
Korea.....	10,519,000	85,000	123	Seoul.....	Catholic.....	Monarchy
Liberia.....	1,050,000	14,000	75	Monrovia.....	Catholic.....	Republic
Mexico.....	12,578,861	767,316	16.4	Mexico.....	Catholic.....	Republic
Montenegro.....	245,386	3,486	70	Cettinje.....	Greek Church..	Monarchy
Morocco.....	6,500,000	314,000	20	Fes.....	Mohammedan	Monarchy
Nepaul.....	2,000,000	57,800	35	Khatmandu... The Hague.....	Mohammedan Protestant.....	Monarchy Monarchy
Netherlands.....	4,450,870	12,680	396			
Norway.....	1,073,500	203,714	5			
Celebes.....	2,000,000	75,000	27			
Java.....	353,000	50,848	432	Patavia.....	Mohammedan	
New Guinea.....	21,974,161	50,848	432	Amboyna		
Nepaul.....	200,000	150,755	1.3			
Sumatra.....	2,750,000	170,744	16			
Surinam.....	57,141	46,060	7	Paramaribo		
Nicaragua.....	420,000	51,660	8	Managua.....	Protestant.....	Republic
Norway.....	2,000,970	124,445	16.1	Christiania...	Mohammedan	Monarchy
Orange Free State.....	1,600,000	81,000	19.7	Muscat.....	Protestant.....	Monarchy
Paraguay.....	207,503	45,326	4.3	Bloomfontein..	Catholic.....	Republic
Peru.....	7,653,600	145,000	4.1	Asuncion.....	Mohammedan	Monarchy
Portugal.....	3,000,000	636,000	12	Teheran.....	Catholic.....	Republic
Portuguese Africa.....	4,708,178	405,040	7.4	Lima.....		
	5,416,000	34,038	141.9	Liabon.....		
		84,003	6			

Continued

Country	Population	Area	Persons to Sq. Mile	Capital	Prevailing Religion	Government
Portuguese Asia.....	847,503	7,093	107	Bucharest.....	Greek Church.	Monarchy
Roumania.....	5,376,000	46,314	116	St. Petersburg.	Greek Church.	Empire
Russian Empire.....	128,932,173	8,660,365	14	Warsaw.....	Catholic	
Russia.....	94,534,15	1,902,202	51	Helsingfors		
Poland.....	9,455,943	44,255	193	Tobolsk		
Finland.....	2,350,437	144,255	20			
Siberia.....	5,727,690	4,833,497	1			
Other Dependencies.	17,013,288	3,531,283	5			
Salvador.....	800,500	7,228	110	San Salvador..	Catholic.....	Republic
Serbia.....	2,096,043	8,757	122	Belgrade.....	Greek Church.	Monarchy
Siam.....	5,700,000	286,550	18	Bangkok.....	Buddhist.....	Monarchy
Spain.....	17,550,216	196,173	88	Madrid.....	Catholic.....	Monarchy
Spanish Africa.....	437,000	203,767	2.1			
Spanish Islands.....	127,172	1,957	65			
Sweden.....	4,784,081	172,576	28.7	Stockholm.....	Protestant.....	Monarchy
Switzerland.....	2,933,334	15,981	182.6	Berne.....	Protestant.....	Confederat'n
Transvaal.....	1,094,155	119,139	9.1	Pretoria.....	Protestant....	Monarchy
Turkish Empire.....	33,550,787	1,652,533	21	Constantinople	Mohammedan.	
Turkey in Asia.....	4,700,000	63,850	88			
Turkey in Asia.....	16,133,000	729,170	26			
Turkey.....	1,000,000	395,873	3	Tripoli		
Tripoli.....	3,154,375	37,860	84	Soha.....	Greek Church	
Tunisia.....	9,700,000	400,000	24	Cairo.....	Mohammedan.	
United States.....	78,000,000	3,632,992	21	Washington....	Protestant.....	Republic
United Kingdom.....	8,000,000	143,000	56	Manila		
Uruguay.....	900,000	3,600	250	San Juan		
Uruguay.....	109,029	6,710	16	Honolulu		
Uruguay.....	400	6,710	74	Agana		
Uruguay.....	80,725	72,112	11.4	Montevideo....	Catholic.....	Republic
Uruguay.....	2,444,816	566,159	3.9	Caracas.....	Catholic.....	Republic

POPULATION
AT EACH

STATES AND TERRITORIES		1790	1800	1810	
1 Alabama .....					..
2 Arizona .....					..
3 Arkansas .....					..
4 California .....					..
5 Colorado .....					..
6 Connecticut		237,946	251,002	261,942	..
7 Dakota .....					..
8 Delaware		59,096	64,273	72,674	..
9 District of Columbia			49,093	24,023	..
10 Florida .....					..
11 Georgia		82,548	162,686	252,433	..
12 Idaho .....					..
13 Illinois				12,282	..
14 Indiana			5,641	24,520	..
15 Iowa .....					..
16 Kansas .....					..
17 Kentucky		73,677	220,955	406,511	..
18 Louisiana				76,556	..
19 Maine †		96,540	151,719	228,705	..
20 Maryland		319,728	341,548	380,546	..
21 Massachusetts		378,787	422,845	472,040	..
22 Michigan				4,762	..
23 Minnesota .....					..
24 Mississippi			8,850	40,352	..
25 Missouri				20,845	..
26 Montana .....					..
27 Nebraska .....					..
28 Nevada .....					..
29 New Hampshire		141,885	183,858	214,460	..
30 New Jersey		184,139	211,149	245,562	..
31 New Mexico .....					..
32 New York		340,120	589,051	959,049	1,
33 North Carolina		393,751	478,103	555,500	..
34 North Dakota .....					..
35 Ohio			45,365	230,760	..
36 Oklahoma .....					..
37 Oregon .....					..
38 Pennsylvania		434,373	602,365	810,091	1,
39 Rhode Island		68,825	69,122	76,931	..
40 South Carolina		24,073	345,591	415,115	..
41 South Dakota .....					..

† Until 1820 Maine was a part of Massachusetts

Area, Population, Religion, Etc.

6

THE UNITED STATES

FROM 1790 TO 1890

1830	1840	1850	1860	1870	1880	1890	
309,527	590,756	771,623	964,301	996,993	1,262,595	1,513,017	1
.....	.....	.....	.....	9,658	40,440	59,620	2
30,888	97,574	209,807	435,450	484,471	802,525	1,125,179	3
.....	.....	.....	.....	379,994	560,247	864,694	4
.....	.....	.....	.....	34,277	39,864	1,205,170	5
297,675	309,978	370,742	460,147	537,454	194,327	419,198	6
.....	.....	.....	.....	.....	622,700	746,258	7
76,748	78,085	91,532	112,216	125,015	135,177	.....	8
39,834	43,712	51,687	75,050	131,700	177,624	168,493	9
34,730	54,477	87,445	140,424	187,748	269,493	230,392	10
516,823	691,392	906,185	1,057,286	1,184,109	1,542,180	391,422	11
.....	.....	.....	.....	.....	.....	1,837,353	12
157,445	476,183	851,470	1,711,951	2,539,891	3,077,371	84,385	13
343,031	685,866	988,416	1,350,428	1,680,637	1,978,301	3,826,351	14
.....	43,112	192,214	674,913	1,194,020	1,624,615	2,192,404	15
.....	.....	.....	107,206	364,399	996,096	1,911,896	16
687,917	779,828	982,405	1,155,684	1,321,011	1,648,690	1,427,096	17
215,739	352,411	517,762	708,002	726,915	939,946	1,858,635	18
399,455	501,793	581,169	628,279	626,915	648,936	1,118,587	19
447,040	470,019	581,034	687,049	780,894	934,043	661,086	20
619,408	737,609	994,514	1,231,066	1,457,351	1,783,085	1,042,390	21
31,639	212,267	397,654	749,113	1,184,059	1,636,937	2,238,943	22
.....	.....	6,077	172,023	439,706	780,773	2,093,889	23
136,621	375,651	606,526	791,305	827,922	1,131,597	1,301,826	24
140,455	383,792	682,044	1,182,012	1,721,295	2,168,180	1,289,600	25
.....	.....	.....	.....	20,595	39,159	2,679,184	26
.....	.....	.....	.....	28,841	122,993	132,159	27
.....	.....	.....	.....	6,857	42,491	1,058,910	28
269,128	284,574	317,976	326,073	318,300	346,991	45,761	29
320,823	373,306	480,555	672,035	906,066	1,131,116	376,539	30
.....	.....	61,547	93,516	91,874	119,565	1,444,933	31
1,118,608	2,428,921	3,097,394	3,886,735	4,382,759	5,082,871	153,593	32
737,987	753,419	894,039	992,622	1,071,361	1,399,750	5,097,853	33
.....	.....	.....	.....	.....	.....	1,617,947	34
937,903	1,519,467	1,980,329	2,339,511	2,665,260	3,198,062	182,719	35
.....	.....	.....	.....	.....	.....	3,672,316	36
.....	.....	13,294	52,465	99,923	174,768	61,814	37
1,348,233	1,724,033	2,311,786	2,906,215	3,521,951	4,282,891	313,767	38
97,199	108,830	147,545	174,620	217,353	276,531	5,258,014	39
581,185	594,398	668,507	703,708	705,606	995,577	345,506	40
.....	.....	.....	.....	.....	.....	1,151,149	41
.....	.....	.....	.....	.....	.....	328,808	42

* The census returns of Dakota for 1891 are properly placed under North
 kota and South Dakota.

POPULATION
AT EACH

STATES AND TERRITORIES		1790	1800	1810	
42	Tennessee.....	35,691	105,602	261,727	
43	Texas.....				
44	Utah.....				
45	Vermont.....	85,425	154,465	217,895	
46	Virginia.....	747,610	880,200	974,600	
47	Washington.....				
48	West Virginia.....				
49	Wisconsin.....				
50	Wyoming.....				
Total		3,929,214	5,308,483	7,239,881	9,633,822
Gain.....		984,214	1,379,269	1,931,398	2,393,941
Gain per cent.....		33.42	35.10	36.39	33.06

Alaska.—Adding to the foregoing the population of Alaska, 30,329, and Indian Territory, 179,321, makes the total population for 1890, 62,831,900.

Early Census.—Some attempts at a census were made prior to 1790. According to Bancroft the population of the country in 1688 was 200,000; in 1714, 434,600; in 1727, 580,000; in 1750, 1,260,000; in 1754, 1,425,000; in 1760, 1,695,000; in 1770, 2,312,000; in 1780, 2,945,000. Of these (census of 1780) 2,383,000 were white, and 562,000 colored.

Sex.—The last official census of the country gives the total male population as 32,067,880; females, 30,554,370; showing an excess of 1,513,510 males. In the New England States (except Vermont) the females outnumber the males; in the western, and especially in the frontier states, the males greatly exceed the females.

THE UNITED STATES—(Continued)

FROM 1790 TO 1890

1830	1840	1850	1860	1870	1880	1890
681,904	829,210	1,002,717	1,109,801	1,258,520	1,542,359	1,767,518
.....	.....	212,592	604,215	818,579	1,591,749	2,235,523
.....	.....	11,380	40,273	86,786	143,963	297,905
280,652	291,948	314,120	315,008	330,551	332,286	332,422
1,211,405	1,239,797	1,421,661	1,596,318	1,225,163	1,512,565	1,655,980
.....	.....	.....	11,594	23,955	75,116	349,390
.....	.....	.....	.....	442,014	618,457	762,704
.....	30,945	305,391	775,881	1,054,670	1,315,497	1,686,880
.....	.....	.....	.....	9,118	20,789	60,705
12,866,020	17,069,453	23,191,876	31,443,321	38,458,371	50,155,783	62,622,250
3,232,198	4,203,433	6,122,423	8,251,445	7,115,050	11,597,412	12,466,467
33.55	32.67	35.86	35.57	22.62	30.07	24.85

Nativity.—The native born population is 53,372,703 ; the foreign born, 9,249,547. The latter are made up as follows : From Germany, 2,784,894 ; Ireland, 1,871,509 ; British America, 980,938 ; England 909,092 ; Sweden, 478,041 ; Norway, 322,665 ; Scotland, 242,231 ; Russia, 182,644 ; Italy, 182,580 ; Poland, 147,440 ; Denmark, 132,543 ; Austria, 123,271 ; Bohemia, 118,106 ; France, 113,174 ; China, 106,688 ; Switzerland, 104,069 ; Wales, 103,079 ; Netherlands, 81,828 ; Mexico, 77,853 ; Hungary, 62,435 ; Belgium and Luxemburg, 25,521 ; Cuba and West Indies, 23,256 ; Portugal, 15,996 ; Central and South America, 6,198 ; Spain, 6,185 ; India, 4,403 ; Japan, 2,292 ; Greece, 1,887 ; all others, 41,799.

Percentage of Foreign Born.—The number of persons of foreign birth, and those whose parents were foreign born, in 1870, comprised 28.25 per cent. of the total population.

in 1880, 29.75 per cent.; in 1890, 33.02 per cent., the total number being 20,676,046.

Race.—The white population comprises 54,983,890; colored, 7,638,360, including 7,470,040 persons of African descent; 107,475 Chinese; 2,039 Japanese; and 58,806 civilized Indians. In South Carolina, Mississippi, and Louisiana, the blacks outnumber the whites.

Jews.—The Jewish population of the United States is 1,043,800, of which 400,000 are found in New York.

LARGEST CITIES OF THE WORLD

CITIES OF OVER 1,000,000 POPULATION ACCORDING TO THE LATEST OFFICIAL CENSUS

London.....	4,211,056	Tokio.....	1,299,941
New York.....	3,300,000	St. Petersburg.....	1,267,003
Paris.....	2,536,834	Philadelphia.....	1,143,653
Berlin.....	1,677,304	Chicago.....	1,099,850
Canton.....	1,600,000	Pekin.....	1,000,000
Vienna.....	1,364,548		

The population as given for Canton and Pekin is the best attainable estimate.

AREAS OF THE SIXTEEN LARGEST AMERICAN CITIES

	Sq. Miles		Sq. Miles
New York.....	307½	Duluth, Minn.....	62
New Orleans, La.....	228	St. Paul, Minn.....	55
Chicago, Ill.....	190½	Minneapolis, Minn.....	54½
Philadelphia, Pa.....	129	Des Moines, Ia.....	54
San Diego, Cal.....	76	Denver, Colo.....	49
Washington, D. C.....	69½	Sioux City, Ia.....	47
Brooklyn, N. Y.....	65½	Taunton, Mass.....	44½
St. Louis, Mo.....	62½	Buffalo, N. Y.....	43

Alaska.....									
Arizona.....									
Dakota.....						6	8	6	
D. of Columbia					2	2		3	
Idaho.....							6	8	
Indian.....									
Montana.....							5	7	
New Mexico.....					1	1	2	4	
Oklahoma.....								3	
Utah.....					3	3		2	
Washington.....							5	5	
Wyoming.....							9	9	

The population of Alaska (1890) was estimated at 30,329, but since the recent discovery of gold this number has been greatly increased. For the Indian Territory and the Indian Reservations there were returned in 1890 a total of 325,464 persons.

New Mexico was organized as a territory in 1850; Indian Territory in 1854; Arizona in 1863, and Oklahoma in 1890. Dakota was divided into North Dakota and South Dakota, and both sections, together with Montana and Washington, were admitted to statehood in 1889. Idaho and Wyoming were admitted in 1890, and Utah in 1896. These are ranked first as territories, and as they become states their rank is transferred to the list of States.

First American Coins.—The first coins minted in North America were produced in Mexico in 1535, and the *coinage of the colonies that afterward became the United States used the Mexican dollar as the standard of value.*

Area, Popul.

5 ACCORDING TO
1790 TO 1890

350 1860 1870 1880 .3-

		3	6		4
	6	7	3		
2	2	1	1		
		6	5		
		5	7		
1	1	2	4		
3	3	3	2		
	5	4	5		
		9	6		

ated at 30,329, 1/2
r has been great
Indian Reser-
325,464 persons
in 1850; Indian
Shoma in 185
South Dakota
Washington
Wyoming
are ranked
rank

Printed in
and in
L. nite.
re

LENGTH, Breadth, and Areas of the
of Governors and Term of Of
which each State is entitled in

STATES AND TERRITORIES	Area in Square Miles	Breadth, Miles
Alabama.....	51,756	200.
Alaska Territory.....	599,446	800
Arizona Territory.....	113,870	335
Arkansas.....	53,228	275
California.....	158,233	375
Colorado.....	103,069	390
Connecticut.....	5,612	90
Delaware.....	2,380	35
District of Col.....	60	9
Florida.....	58,984	400
Georgia.....	59,416	250
Idaho.....	83,828	305
Illinois.....	58,354	205
Indiana.....	36,587	160
Indian Territory.....	31,154	210
Iowa.....	56,270	300
Kansas.....	82,336	350
Kentucky.....	40,332	350
Louisiana.....	49,626	280
Maine.....	33,039	205
Maryland.....	12,797	200
Massachusetts.....	8,546	190
Michigan.....	97,990	310
Minnesota.....	86,335	350
Missouri.....	69,919	180
Missouri.....	69,137	300
Montana.....	147,061	580
Nebraska.....	77,534	415
Nevada.....	110,679	315
New Hampshire.....	9,377	90
New Jersey.....	8,173	70
New Mexico Ter.....	121,687	350
New York.....	53,719	320
North Carolina.....	52,674	520
North Dakota.....	70,879	360
Ohio.....	44,464	230
Oklahoma Ter.....	38,958	365
Oregon.....	96,838	375
Pennsylvania.....	45,928	300

LENGTH, Breadth, and Areas of the States, together with their Capitals, Salaries of Governors and Term of Office, and the number of Electoral Votes to which each State is entitled in 1900—(Continued)

STATES AND TERRITORIES	Area in Square Miles	Breadth, Miles	Length, Miles	Capitals	Governors' Salaries	Term, Years	Electoral Votes
Rhode Island.....	1,247	35	50	New. & Prov.	3,000	1	4
South Carolina.....	31,048	235	215	Columbia.....	3,000	2	9
South Dakota.....	77,580	380	245	Pierre.....	2,500	2	4
Tennessee.....	42,056	430	120	Nashville.....	4,000	2	12
Texas.....	266,011	760	620	Austin.....	4,000	3	15
Utah.....	84,928	275	345	Salt Lake City.	2,000	4	3
Vermont.....	9,563	90	155	Montpelier....	1,500	2	4
Virginia.....	42,330	425	205	Richmond.....	5,000	4	12
Washington.....	70,574	340	230	Olympia.....	4,000	4	11
West Virginia.....	24,504	200	225	Charleston.....	2,700	4	6
Wisconsin.....	65,805	290	300	Madison.....	5,000	2	12
Wyoming.....	97,878	365	275	Cheyenne.....	2,500	4	3
Total U. S.....	3,692,125	2,720	1,600				447

The above areas include the water as well as land surface. The "breadth" comprises the extreme measurement from east to west, and the "length," from north to south. Alaska is not included in the total length and breadth of the United States. The electoral votes represent the apportionment for 1,900. Necessary to a choice, 224.

The District of Columbia originally comprised a tract ten miles square, or one hundred square miles, but in 1846 over thirty square miles were ceded back to Virginia.

Colonial Possessions.—The Philippine Islands comprise 143,000 square miles; Hawaii, 6,740; Porto Rico, 3,600; Guam, 54.

THE RELATIVE RANK OF OUR LARGEST CITIES

THE NUMBER AND RELATIVE RANK OF CITIES HAVING A POPULATION OF
100,000 OR MORE

Rank	1890	1880	1870
1....	New York, N. Y.....	New York, N. Y.....	New York, N. Y.
2....	Chicago, Ill.....	Philadelphia, Pa.....	Philadelphia, Pa.
3....	Philadelphia, Pa.....	Brooklyn, N. Y.....	Brooklyn, N. Y.
4....	Brooklyn, N. Y.....	Chicago, Ill.....	St. Louis, Mo.
5....	St. Louis, Mo.....	Boston, Mass.....	Chicago, Ill.
6....	Boston, Mass.....	St. Louis, Mo.....	Baltimore, Md.
7....	Baltimore, Md.....	Baltimore, Md.....	Boston, Mass.
8....	San Francisco, Cal.....	Cincinnati, Ohio.....	Cincinnati, Ohio.
9....	Cincinnati, Ohio.....	San Francisco, Cal.....	New Orleans, La.
10....	Cleveland, Ohio.....	New Orleans, La.....	San Francisco, Cal.
11....	Buffalo, N. Y.....	Cleveland, Ohio.....	Buffalo, N. Y.
12....	New Orleans, La.....	Pittsburg, Pa.....	Washington, D. C.
13....	Pittsburg, Pa.....	Buffalo, N. Y.....	Newark, N. J.
14....	Washington, D. C.....	Washington, D. C.....	Louisville, Ky.
15....	Detroit, Mich.....	Newark, N. J.	
16....	Milwaukee, Wis.....	Louisville, Ky.	
17....	Newark, N. J.....	Jersey City, N. J.	
18....	Minneapolis, Minn.....	Detroit, Mich.	
19....	Jersey City, N. J.....	Milwaukee, Wis.	
20....	Louisville, Ky.....	Providence, R. I.	
21....	Omaha, Neb.		
22....	Rochester, N. Y.		
23....	St. Paul, Minn.		
24....	Kansas City, Mo.		
25....	Providence, R. I.		
26....	Denver, Colo.		
27....	Indianapolis, Ind.		
28....	Allegheny, Pa.		

OBJECTS VISIBLE AT SEA-LEVEL

An object 1 foot high may be seen in clear weather a distance of 1.31 miles; an object 5 feet high, 2.96 miles; 10 feet, 4.18 miles; 20 feet, 5.92 miles; 25 feet, 6.61 miles; 30 feet, 7.25 miles; 40 feet, 8.37 miles; 50 feet, 9.35 miles; 100 feet, 13.23 miles; 200 feet, 18.72 miles; 500 feet, 29.58 miles; 1000 feet, 33.41 miles; 1 mile, 96.10 miles.

CENTER OF POPULATION IN THE UNITED STATES

Date	Position of Center of Population	Westward Movement
1790..	23 miles E. of Baltimore, Md.	
1800..	18 miles W. of Baltimore, Md.	41 mi
1810..	40 miles N. W. by W. of Washington, D. C.	36 mi
1820..	16 miles N. of Woodstock, Va.	50 mi
1830..	19 miles W. S. W. of Moorefield, W. Va.	39 mi
1840..	16 miles South of Clarksburg, W. Va.	55 mi
1850..	23 miles S. E. of Parkersburg, W. Va.	55 mi
1860..	20 miles S. of Chillicothe, O.	81 mi
1870..	48 miles E. by N. of Cincinnati, O.	42 mi
1880..	8 miles W. by S. of Cincinnati, O.	58 mi
1890..	20 miles E. of Columbus, Ind.	43 mi
	Westward movement in 100 years.	500 mi

INDIAN RESERVATIONS

AREA AND POPULATION

	Acres	Population		Acres	Population
Arizona	6,400,037	35,277	New Mexico	9,495,645	
California	438,868	12,514	New York	87,677	
Colorado	1,094,400	1,202	North Carolina	62,211	
Florida		470	North Dakota	3,812,833	
Idaho	2,088,091	4,200	Oklahoma	7,231,747	
Indian Territory	19,879,573	72,000	Oregon	1,929,105	
Iowa	2,900	400	South Dakota	10,271,501	
Kansas	73,796	1,162	Texas		
Michigan	19,799	7,500	Utah	3,972,480	
Minnesota	2,254,781	6,295	Washington	4,046,564	
Montana	9,382,400	10,900	Wisconsin	446,521	
Nebraska	114,550	3,900	Wyoming	1,810,000	
Nevada	954,135	8,700			
			Total	85,872,614	25

The number of Indian Schools, in 1898, was 295, with average attendance of 19,648 pupils.

Area, Population, Religion, Etc.

7.

EDUCATION IN THE UNITED STATES (1898)

	Institutions	Professors and Instructors	Total Number Students
Liberal Arts:			
Colleges and Universities..	480	13,148	154,056
Professional Schools:			
Theological... ..	155	958	8,371
Law... ..	83	845	11,615
Medical:			
Regular... ..	122	3,423	21,002
Homeopathic... ..	21	629	1,786
Eclectic... ..	6	147	538
Dental... ..	50	961	6,774
Pharmacy... ..	45	401	3,538
Nurse Training... ..	377	.....	8,805
Veterinary... ..	14	173	320

The Public Schools, in 1898, represented an enrolment of 15,038,636 pupils, with an average daily attendance of 10,286,092. The enrolment was 20.68 per cent. of the total population. Number of teachers employed, 409,193.

RELIGIONS OF THE WORLD

Creeds	Adherents	Creeds	Adherents
Christianity	477,080,158	Polytheism	117,681,000
Confucianism	256,000,000	Taoism	43,000,000
Hinduism	190,000,000	Shintoism	14,000,000
Mohammedanism	176,834,372	Judaism	7,186,000
Buddhism	147,900,000		

CHRISTIANITY

Churches	Adherents	Churches	Adherents
Catholic Church.....	230,866,533	Armenian Church ...	1,600,000
Protestant Church.....	143,237,625	Nestorians.....	80,000
Orthodox Greek Church..	98,016,000	Jacobites.....	70,000
Church of Abyssinia.....	3,000,000		
Coptic Church.....	120,000	Total	477,080,158

ENGLISH-SPEAKING RELIGIOUS COMMUNITIES OF WORLD

Episcopalians.....	29,200,000	Congregationalists.....
Methodists.....	18,650,000	Free Thinkers.....
Roman Catholics.....	15,500,000	Lutherans.....
Presbyterians.....	12,250,000	Unitarians.....
Baptists.....	9,230,000	Unclassified.....

There are more than 18,000,000 Hindoos, Mohammedans, Buddhists, and others in the East who also read and speak English.

RELIGIONS OF EUROPE

	Catholics	Protestants	Orthodox Churches	Jews	Mohammedans	Others
Austria-Hungary.....	31,100,000	3,900,000	3,100,000	1,700,000	.....	1
Belgium.....	5,880,000	15,000	.....	3,000	.....
Bulgaria.....	29,000	.....	1,393,000	.....	571,000	
Denmark.....	3,000	2,089,000	.....	4,000	.....
France.....	35,387,000	580,000	.....	49,000	.....
Germany.....	17,100,000	29,478,000	.....	590,000	.....
Gibraltar.....	16,000	.....	.....	.....	.....
Great Britain.....	6,500,000	30,100,000	.....	100,000	.....	5
Greece.....	10,000	10,000	1,930,000	.....	45,000	
Italy.....	29,850,000	62,000	.....	38,000	.....
Luxembourg.....	200,000	.....	.....	.....	.....
Malta.....	160,000	.....	.....	.....	.....
Montenegro.....	5,000	.....	290,000	.....	.....
Netherlands.....	1,545,000	2,756,000	.....	83,000	.....
Norway.....	1,000	1,958,000	.....	.....	.....
Ottoman Empire.....	320,000	11,000	1,700,000	61,000	2,708,000	
Portugal.....	4,300,000	.....	.....	.....	.....
Roumelia.....	30,000	.....	700,000	4,000	240,000	
Roumania.....	100,000	15,000	4,800,000	400,000	30,000	
Russia.....	9,600,000	3,400,000	73,310,000	3,400,000	3,000,000	2
Servia.....	6,000	1,000	1,973,000	5,000	15,000	
Spain.....	16,850,000	29,000	.....	5,000	.....
Sweden.....	1,000	4,608,000	.....	2,000	.....
Switzerland.....	1,172,000	1,710,000	.....	8,000	.....
<i>Total.....</i>	<i>160,165,000</i>	<i>80,812,000</i>	<i>89,195,000</i>	<i>6,456,000</i>	<i>6,629,000</i>	<i>1</i>

RELIGIOUS DENOMINATIONS OF THE UNITED STATES (1899)

	Members		Members
Adventists.....	84,454	Greek Church:	
Armenians.....	5,924	Greek Orthodox.....	5,030
Baptists.....	4,364,427	Russian Orthodox....	43,000
Brethren.....	11,461	Jews.....	1,200,000
Catholics.....	8,395,178	Lutherans.....	1,526,552
Christians.....	124,368	Mennonites.....	56,318
Christian Scientists.....	70,000	Methodists.....	5,898,094
Christian Union.....	18,214	Moravians.....	14,553
Church of God.....	38,000	Mormons.....	340,639
Congregationalists.....	625,864	Presbyterians.....	1,542,401
Disciples of Christ.....	1,085,615	Reformed Church.....	370,277
Dunkards.....	109,194	Salvation Army.....	40,000
Episcopalians:		Society for Ethical Cul-	
Protestant Episcopal...	679,604	ture.....	1,300
Reformed Episcopal...	9,743	Spiritualists.....	45,030
Evangelical bodies:		Swedenborgians.....	6,702
Evangelical Association	116,714	United Brethren.....	285,940
United Evang'l Church	59,190	Unitarians.....	75,000
German Ev. Protestants	36,500	Universalists.....	48,856
German Ev. Synod....	199,234	Independent Congrega-	
Friends:		tions.....	14,126
Orthodox.....	92,073	Minor Sects.....	28,395
Hicksite.....	21,992		
Wilburite.....	4,329	Total.....	27,714,523
Primitive.....	232		

SUNDAY SCHOOLS

The total number of teachers in the Sabbath Schools of the world reported at the last World's Convention, was 2,239,728 ; and of scholars, 20,268,933. The Sabbath Schools of the Roman Catholic and Non-Evangelical Protestant Churches are not included in this report. The number of scholars in the Roman Catholic Sunday Schools of the United States is estimated at 800,000.

VIII. SPORTING RECORDS

THE TURF

BEST RUNNING.—RECORDS EXTENDING FROM OCT., 1789, TO AUG., 1899

One-mile Run

Date	Horse	Time	Date	Horse	Time
1789	Paragon.....	1.51	1873	Thornhill.....	1.43
1827	Maria.....	1.51	1879	L'Argentine.....	1.43
1841	Jim Bell.....	1.46	1890	Raveloe.....	1.39½
1871	Fadiadeen.....	1.43	1890	Salvator.....	1.35½
1871	Salina.....	1.43			

Two-mile Run

1789	Diamond.....	4.02	1874	Tom Bowling.....	3.27½
1871	Lyttleton.....	3.34½	1877	Ten Broeck.....	3.27½
1873	True Blue.....	3.32½	1898	Judge Denny.....	3.26½

Three-mile Run

1789	Sea Serpent.....	6.07	1882	Lida Stanhope.....	5.24½
1827	Limber.....	6.07	1884	Drake Carter.....	5.24
1840	Blacknose.....	5.40	1894	Portsea.....	5.23½
1865	Norfolk.....	5.27½	1896	Quiver.....	5.23½
1876	Ten Broeck.....	5.26½	1896	Wallace.....	5.23½
1881	Flora.....	5.25			

Four-mile Run

1789	Tiger.....	8.15	1873	Fellowcraft.....	7.19½
1842	Miss Foote.....	7.40	1876	Ten Broeck.....	7.15½
1854	Le Compte.....	7.26	1897	Lucretia Borgia.....	7.11
1855	Lexington.....	7.19½			

BEST TROTTING RECORDS

One Mile

1806	Yankee.....	2.59	1874	Goldsmith Maid.....	2.14
1824	Topgallant.....	2.40	1878	Rarus.....	2.13½
1830	Buster.....	2.32	1879	St. Julian.....	2.11½
1834	Edwin Forrest.....	2.31½	1881	Maud S.....	2.10½
1843	Lady Suffolk.....	2.28	1883	Frank.....	2.08½
1852	Iacony.....	2.25½	1884	Maud S.....	2.09½
1856	Flora Temple.....	2.24½	1884	H. B. Winslip.....	2.06
1859	Flora Temple.....	2.19½	1892	Nancy Hanks.....	2.04
1867	Dexter.....	2.17½	1893	Ayres P.....	2.04½

RECORDS OF A FEW FAMOUS TROTTERS.

Flora Temple, 1856, 2 m. 24½ s.; 1859, 2.19¾; 1860, 3 miles, 7.33¾.
Dexter, 1865, 2.18¾; 1866, 2.18; 1867, 2.17¾.
Goldsmith Maid, 1871, 2.17; 1872, 2.16¾; 1874, 2.14.
Maud S., 1880, 2.10¾; 1881, 2.10¼; 1884, 2.09¾; 1884, 2.09¾; 1885, 2.08¾.
Sunol, 1889, 2.10¾; 1890, 2.10¾; 1891, 2.08¾.
Nancy Hanks, 1892, 2.04; 1893, 2.06¾.

BEST PACING RECORDS—ONE MILE

Date	Horse	Time	Date	Horse	Time
1884	Westmont.....	2.01¾	1898	Evangeline.....	2.01¾
1894	Flying Jib.....	1.58¾	1898	Star Pointer.....	2.01¾
1894	Robert J.....	2.01¾	1898	Star Pointer.....	1.59¾
1896	John R. Gentry.....	2.00¾	1899	Joe Patchen.....	2.03¾
1896	Star Pointer.....	2.02¾	1899	Joe Patchen.....	2.02¾
1896	Arthur Gardiner.....	2.01 4-5	1899	Searchlight.....	2.02

AMERICAN TURF,—RUNNING

¼ mile, Bob Wade, at Butte, Montana, August 20th, 1890, in 21½ seconds; Geraldine, on August 30th, 1889, ran ¼ mile in 46 seconds; Fire Arm, at Morris Park, October 3d, 1899, ran ¼ mile in 1 minute, 8½ seconds; Salvator, at Monmouth Park, August 28th, 1890, ran 1 mile in 1 minute, 35½ seconds; Banquet, at Monmouth Park, July 17th, 1890, ran 1¼ miles in 2 minutes, 3½ seconds; Goodrich, at Washington Park, Chicago, July 16th, 1898, ran 1¼ miles in 2 minutes, 30½ seconds; Judge Denny, at Oakland, California, February 12th, 1898, ran 2 miles in 3 minutes, 26½ seconds; Drake Carter, at Sheepshead Bay, New York, September 6th, 1884, ran 3 miles in 5 minutes, 24 seconds; Lucrezia Borgia, at Oakland,

California, May 20th, 1897, ran 4 miles in 7 minutes, 11 seconds.

HURDLE RACES

Swannanoë, at Brighton Beach, New York, July 16th, 1881, ran 1 mile in 1 minute, 50 seconds; Kitty Clark, on the same course, August 23d, 1881, ran $1\frac{1}{2}$ miles in 2 minutes, 47 seconds; which was equaled by Speculation at the same place, July 19th, 1881. Buckra, at Sheepshead Bay, New York, June 21st, 1887, ran $2\frac{1}{2}$ miles in 4 minutes, 26 seconds; Will Davis, at Chicago, July 3d, 1886, ran 2 mile-heats in 1 minute, 49½ seconds and 1 minute, 51 seconds.

TROTTING—IN HARNESS

Alix, at Galesburg, Illinois, September 19th, 1894, made 1 mile in 2 minutes, 3½ seconds; Pascal, at New York, November 12th, 1893, made 10 miles in 26 minutes, 15 seconds; Conqueror, at Centerville, Long Island, accomplished 100 miles in 8 hours, 55 minutes, 53 seconds.

TROTTING—TO WAGON

Grace Hastings, at Cleveland, Ohio, July 29th, 1898, made 1 mile in 2 minutes, 9½ seconds; Controller, at San Francisco, April 20th, 1878, made 20 miles in 58 minutes, 57 seconds.

TROTTING—UNDER SADDLE

Great Eastern, at Fleetwood Park, New York, September, 22d, 1877, made 1 mile in 2 minutes, 15½ seconds.

TROTTING—BY TEAMS

Maud S. and Aldine, driven by W. H. Vanderbilt to a road wagon, at Fleetwood Park, New York, June 15th, 1883, made 1 mile in 2 minutes, 15½ seconds; Belle Hamlin and Honest George, at Providence, Rhode Island, September 23d, 1892, the wagon having bicycle wheels, made 1 mile in 2 minutes, 12½ seconds; Belle Hamlin and Justina, at Independence, Iowa, on a kite-shaped track, to a skeleton wagon driven by their breeder, Mr. C. J. Hamlin, then 72 years old, made 1 mile in 2 minutes, 13½ seconds, on October 24th, 1890.

PACING—IN HARNESS

Star Pointer, at Readville, Massachusetts, August 28th, 1897, made 1 mile in 1 minute, 59½ seconds; Chehalis, at Salem, Oregon, October 6th, 1897, made 2 miles in 4 minutes, 19½ seconds.

PACING—TO WAGON

Bumps, at Louisville, Kentucky, September 27th, 1899, made 1 mile in 2 minutes, 3½ seconds.

PACING—UNDER SADDLE

Johnston, at Cleveland, Ohio, August 3d, 1883, made 1 mile in 2 minutes, 3½ seconds.

PACING—WITH RUNNING MATE

Flying Jib and mate, at Chillicothe, Ohio, on kite-shaped track, October 4, 1894, made 1 mile in 1 minute, 58½ seconds.

BEST RUNNING RECORDS FOR MEN

Name	Distance	Time
		h. m. s.
H. M. Johnson, American.....	50 yards.	0 0 5½
James Quirk, Canadian.....	75 "	0 0 7½
Geo Seward, English.....	100 "	0 0 9½
S. D. H. Hutchings, English.....	150 "	0 0 14½
Geo. Seward, English.....	200 "	0 0 19½
B. J. Wefers, American.....	220 "	0 0 21
S. D. H. Hutchings, English.....	250 "	0 0 24
R. Buttry, English.....	440 "	0 0 48½
L. E. Meyers, American.....	500 "	0 0 58
F. Hewitt, English.....	880 "	0 1 53½
W. G. George, English.....	1 mile.	0 4 12½
W. Lang, English.....	2 miles.	0 9 11½
P. Cannon, Scotch.....	3 "	0 14 19½
P. Cannon, Scotch.....	4 "	0 19 25½
J. White, English.....	5 "	0 24 40
W. Cummings, English.....	10 "	0 51 06½
Patrick Byrnes.....	20 "	1 54 00
G. A. Dunning, English.....	25 "	2 33 44
Geo. Cartwright, English.....	50 "	5 55 04½
C. Rowell.....	100 "	13 26 30
C. Rowell.....	150 "	22 28 25
C. Rowell.....	300 "	58 17 06

BEST WALKING RECORDS

Name	Distance	Time
		h. m. s.
Wm. Perkins, English.....	1 mile.	0 6 23
J. W. Raby, English.....	2 miles.	0 13 14
J. W. Raby, English.....	4 "	0 27 38
J. W. Raby, English.....	6 "	0 43 01
John Meagher, American.....	8 "	0 58 37
J. W. Raby, English.....	10 "	1 14 45
J. W. Raby, English.....	15 "	1 55 56
Wm. Perkins, English.....	20 "	2 39 57
W. Franks, English.....	25 "	3 35 14
J. Hibberd, English.....	50 "	7 54 16
Wm. Howes, English.....	100 "	18 08 15
Geo. Littlefield, English.....	200 "	40 46 30
Geo. Littlefield, English.....	300 "	66 30 00
Geo. Littlefield, English.....	500 "	130 34 50
G. Littlewood, American.....	623 "	144 00 00

AMATEUR AND PROFESSIONAL WALKERS COMPARED

One hour record.	H. H. Curtis, Eng. Amateur.	8 $\frac{1}{2}$ $\frac{1}{100}$ miles
One	J. Meagher, Am. Professional.	8 $\frac{1}{2}$ $\frac{1}{100}$ "
Two	W. O'Keefe, Amer. Am.	13 $\frac{1}{2}$ "
Two	Wm. Perkins, Eng. Prof.	15 $\frac{1}{100}$ "
Three	W. E. N. Coston, Eng. Am.	19 $\frac{1}{2}$ "
Three	H. Thatcher, Eng. Prof.	22 $\frac{1}{2}$ "
Four	W. E. N. Coston, Eng. Am.	25 $\frac{1}{2}$ "
Four	W. Franks, Eng. Prof.	27 $\frac{1}{2}$ "

RUNNING RECORDS

The best record for 400 yds. by A. R. Downer, in 44 $\frac{1}{2}$ s., and by W. C. Downs, an amateur, in 43 s.; 500 yds. by T. E. Burke, an amateur, in 57 $\frac{1}{2}$ s.; 800 yds. dash by L. E. Meyers, an amateur, in 1 m. 44 $\frac{1}{2}$ s.; 1,000 yds. by W. Cummings, a professional, in 2 m. 17 s., and by L. E. Meyers, an amateur, in 2 m. 13 s.; $\frac{7}{8}$ miles by C. Price, a professional, in 39 m. 25 $\frac{1}{2}$ s., and by S. Thomas, an amateur, in 38 m. 18 s.; 15 miles by J. Howitt, in 1 hr. 22 m.; 20 miles by G. Crossland, an amateur, in 1 hr. 51 m. 54 s.; 25 miles by G. Mason, a professional, in 2 hr. 36 m. 34 s. The best 500-mile run was made by P. Fitzgerald in 109 hrs. 18 m. 29 s.

The greatest distance run in 1 hr. was 11 m. 1,243 yds., by F. E. Bacon, a professional, at Rochdale, Eng., June 19, 1897; by an amateur, 11 m. 932 yds. 9 in., by W. G. George, at London, Eng., July, 1884.

WALKING RECORDS

The best amateur walking records are by Englishmen: 3 miles, by W. J. Sturgess, in 36 m. 27 s.; 10 miles, 1 hr. 16

m. 57 s. ; 50 miles, by A. W. Sinclair, 8 hr. 25 m. 25½ s. ; also 100 miles, in 19 hr. 41 m. 50 s. The greatest 1 hr. distance is 8 miles 302 yds. by J. Meagher, an American professional, and 8 miles 270 yds. by an English amateur, W. J. Sturgess. The greatest distance in 24 hr. is 127 miles, 1,201 yds., by W. Howes, an English professional, and 120 miles, by A. W. Sinclair, an English amateur.

BEST SWIMMING RECORDS

Year	Name	Place	Distance	Time
1892	T. Meadham.....	Sydney, N. S. W., still water.....	100 yds.	h. m. s.
1897	R. B. Cornell.....	San Francisco.....	220 "	0 1 0
1897	H. F. Brewer.....	San Francisco.....	220 "	0 3 15 3.5
1897	P. Cavill.....	Woolo Mooloo Bay, N. S. W.....	440 "	0 6 24½
1898	Chas. F. Senk.....	East River, N. Y., with strong tide.....	½ mile	0 12 45 3.5
1897	Dr. P. Neumann.....	Chicago, Ill., still water..	1 "	0 12 42½
1897	C. Whyte.....	Thames, Eng., with tide.	1 "	0 30 24 3.5
1875	Miss A. Beckwith (14 yrs.)	Thames, Eng.....	5 "	1 04 23
1875	E. Mercardier.....	Mississippi River.....	5 "	1 09 00
1888	Capt. Webb.....	Thames River, with tide.	20 "	4 59 46
			40 "	9 57 00

OTHER SWIMMING RECORDS

100 yds. still water, by E. C. Schaeffer, American, in 1 m. 8½ s. ; 100 yds., 2 turns, still water, J. H. Derbyshire, Eng., 1 m. ¼ s. ; 150 yds., 7 turns, still water, J. H. Tyers, Eng., 1 m. 39 s. ; 250 yds., still water, by J. Nuttall, English professional, 2 m. 57½ s. ; 1,000 yds., 39 turns, still water, J. H. Tyers, 13 m. 52½ s. ; 1 mile, 7 turns, still water, by F. W. Jarvis, Eng., 26 m. 37½ s. ; 3 miles, 263 turns, still water, Dr. P. Neumann, American, 1 hr. 45 m. 49 s. ; 20 miles, with

current, E. Mercardier, American, 4 hr. 59 m. 46 s. ; 35 miles, Dover to Calais, by Capt. M. Webb, English professional, 21 hr. 45 m. ; 74 miles, 14 hrs. per day by Capt. M. Webb, 84 hrs. ; 94 miles, 10 hrs. per day, W. Beckwith, English professional, 60 hrs.

WOMEN SWIMMERS

1 mile, open water, Miss Theresa Johnson, 30 m. 2 s. ; 2 miles, Miss L. Sergeman, Eng., 1 hr. 21 m. 27 s. ; 20 miles, Thames River, Miss A. Beckwith, Eng., 6 hr. 25 m.

SKATING RECORDS

J. S. Johnson made 200 yds. in 17½ s. ; Tim Donoghue, Jr., straight-away with wind, made 1 mile in 2 m. 12½ s. ; J. Nilsson made 5 miles in 14 m. 47s. ; J. S. Johnson made 10 miles in 31 m. 11½ s. ; A. D. Smith made 20 miles in 1 hr. 6 m. 36½ s. ; J. F. Donoghue made 50 miles in 3 hrs. 15 m. 59½ s., and 75 miles in 5 hr. 19 m. 16½ s., and 100 miles in 7 hr. 11 m. 38½ s. E. St. Clair Milliard, a professional, made 400 miles in 138 hr. 35 m.

BICYCLING RECORDS

The following records are by professional performers, in competition : 1 mile in 1 m. 49 s., by James Michael, at Buffalo, July, '97 ; 5 miles in 9 m. 5½ s., by same gentleman at Cambridge, Sept., '97 ; 10 miles in 17 m. 4½ s., by Tom Linton, at Willow Grove, Aug., '98 ; 15 miles in 25 m. 38½ s., by H. D. Elkes, at Willow Grove, Aug. 6, '98 ; at the same time and place, by the same gentleman, 25 miles in 42 m. 42 s. ; 50 miles in 2 hr. 11 m. 9½ s., by Frank Waller, at Cambridge, Aug., '94 ; 100 miles in 4 hrs. 33 m. 52 s., by

T. A. Barnaby, at Cambridge, Aug., '94. The best 1-hour record, flying start, paced, was 34 miles, 1,220 yds., by H. D. Elkes, at Willow Grove, Aug., '98. Best hour records, in a five-hour run, flying start, unpaced, against time, were made at Denver, Col., July 9, '98, by W. W. Hamilton, as follows: 1st hour, 25 miles 600 yds.; 2d hour, 43½ m.; 3d hour, 62½ m.; 4th hour, 81½ m.; 5th hour, 100 m. 32 yds. The best records against time, flying start, unpaced, were by W. W. Hamilton, at Denver, Col., June, '98, when he covered 1 mile in 1 m. 55½ s.; F. J. Titus, at Willow Grove, July, '98, made 5 miles in 11 m. 5½ s. W. W. Hamilton, at Denver, Col., July, '98, made 10 miles in 23 m. 9½ s., and 15 miles in 35 m. 3 s., and 25 miles in 59 m. 13½ s. John Lawson, at Memphis, November, '96, made 50 miles in 2 hr. 16 m. 3 s. The best records for flying start, paced, were by E. A. McDuffie, at New Bedford, June, '99, 1 mile in 1 m. 28 s.; James Michael, at New Orleans, November, '96, 5 miles in 9 m. 7½ s., and 10 miles in 18 m. 33½ s.

BASE BALL.

EAST VERSUS WEST RECORD FOR 1899

EASTERN CLUBS—PERCENTAGE OF VICTORIES

Brooklyn, .700; Boston, .646; Philadelphia, .602; Baltimore, .600; New York, .500; Washington, .431.

WESTERN CLUBS—PERCENTAGE OF VICTORIES

St. Louis, .500; Louisville, .500; Cincinnati, .488; Pittsburgh, .481; Chicago, .418; Cleveland, .143. The success of the Brooklyn in winning the League Pennant in 1899 gives *the club the unique record of being four times the winner of*

Pennant races. The only four-times winners of Pennant races in four successive years known to League history were the old Boston "Red Stockings" of the decade of the '70's and the St. Louis "Browns" of the '80's, the percentage of the clubs being as follows: Boston, 1872, .830; 1873, .728; 1874, .717; 1875, .809. The St. Louis percentage of victories, in 1885, .705; 1886, .669; 1887, .704; 1888, .681.

When the National League was reconstructed in the Fall of 1891, and became a twelve-club organization, the transaction cost the National League magnates \$186,000. This great indebtedness was paid off by the close of the season of 1893. From that date, however, the financial profits of each season began to decrease. The cause is generally ascribed to that spirit of fault-finding commonly denominated "kicking."

UNIVERSITY BOAT RACING

INTERNATIONAL RACES

In 1869 the Oxford (England) Four beat Harvard (America) Four, over the Putney-Mortlake course on the Thames, by three clear lengths. 1878, at the Henley-on-Thames Royal Regatta, 1 mile and $\frac{1}{8}$, against a slight current, 4-oared crews of Columbia (America) and Dublin (Ireland) were beaten in the first trial for the Steward's Cup; at the same regatta Columbia won the Visitors' Challenge Inter-University race, beating University College, Oxford, Jesus College, Cambridge, and Hertford College, Oxford. In 1896, on the same course, against a slight current, 8-oared shells, for the Grand Challenge Cup, Yale University was beaten by Leander Rowing Club, of England, in the first round of trial heats,

HARVARD AND YALE UNIVERSITY RIGHS.

In 21 races between these two Universities, covering the period from 1876 to 1899, Harvard won 8 and Yale 13 races in the 4-mile straight course at New London, Conn. The best time made by Harvard was 20 m. 44½ s., on June 28, 1878; and the best time made by Yale was 20 m. 10 s., on June 29, 1888.

In 1871 was begun what was then known as the Inter-University Races, in which Harvard and Yale were contestants. On July 21st of that year, at Springfield, 3 miles straight, Massachusetts Agricultural beat in 16 m. 46½ s.; Harvard, 17 m. 23½ s.; Brown, 17 m. 47½ s. On July 24, 1872, over the same course, Amherst won in 16 m. 33 s.; Harvard, 16 m. 57 s.; Amherst Agricultural, 17 m. 10 s.; Bowdoin, 17 m. 31 s.; Williams, 17 m. 59 s.; Yale, 18 m. 13 s. In 1873, over the same course, Yale, 16 m. 59 s.; Wesleyan, 17 m. 9 s.; Harvard, 17 m. 36½ s.; Amherst, 17 m. 40 s.; Dartmouth, 18 m. 7 s.; Columbia, 18 m. 16 s.; Massachusetts Agricultural, 18 m. 26½ s.; Cornell, 18 m. 32 s.; Bowdoin, 18 m. 49½ s.; Trinity, 19 m. 32 s.; Williams, 19 m. 45 s. On July 18, 1874, at Saratoga, N. Y., 3 miles straight, Columbia, 16 m. 42 s.; Wesleyan, 16 m. 50 s.; Harvard, 16 m. 54 s.; Williams, 17 m. 8 s.; Cornell, 17 m. 31 s.; Dartmouth, 18 m.; Trinity, 18 m. 23 s.; Princeton, 18 m. 38 s. July 14, 1875, over the same course, Cornell, 16 m. 53½ s.; Columbia, 17 m. 4½ s.; Harvard, 17 m. 5 s.; Dartmouth, 17 m. 10½ s.; Wesleyan, 17 m. 13½ s.; Yale, 17 m. 14½ s.; Amherst, 17 m. 29½ s.; Brown, 17 m. 33½ s.; Williams, 17 m. 43½ s.; Bowdoin, 17 m. 50½ s.; Hamilton and *Union not timed*; Princeton was withdrawn. On July 19,

1876, over the same course, Cornell, 17 m. 1½ s.; Harvard, 17 m. 5¼ s.; Columbia, 17 m. 8¼ s.; Union, 17 m. 27¼ s.; Wesleyan, 17 m. 58¼ s.; Princeton, 18 m. 10 s.

FRESHMAN EIGHTS

Previous to 1880 a number of races were rowed by "Freshman" crews of the several universities and colleges with 6 oars. In 1880 Harvard and Columbia entered into an agreement to row an 8-oared race annually at 2 miles straight away. Subsequently Yale, then Cornell, and afterward the University of Pennsylvania, were admitted to these races. In 25 races of this character, extending from 1880 to 1899, Harvard won 7; Columbia 6; Cornell 6; and Yale 6.

LATER INTER-UNIVERSITY RACES

June 27, 1889, a match between Cornell, Columbia, and University of Pennsylvania, in 8-oared shells, was rowed at 3 miles over the New London Course. Cornell won easily, Columbia second. In 1890, Cornell defeated University of Pennsylvania by 6 lengths on the same course, time, 14 m. 43 s. This was repeated the next year, the time being reduced to 14 m. 27½ s. In June, 1892, Cornell defeated University of Pennsylvania by 6 lengths in a 3-mile race at Ithaca, time 17 m. 26 s. In 1893-94 Cornell again defeated University of Pennsylvania, and in 1895 Columbia defeated Cornell in a 4-mile race by 6 lengths at Poughkeepsie, time, 21 m. 25 s. The next year, at the same place, Cornell made the course in 19 m. 59 s.; Harvard, 20 m. 8 s.; Pennsylvania, 20 m. 18 s.; Columbia, 21 m. 25 s. In 1897 Yale defeated University of Wisconsin in a 2-mile straightaway course in still water on Lake Saltonstall, Conn., time, Yale,

Things Worth Knowing

10 m. 54 s.; University of Wisconsin, 11 m. 4 s. In the three years Cornell was the winner, but in 1898, at Saratoga Course, 3 miles straightaway, Pennsylvania, 51½ s.; Cornell, 16 m. 6 s.; University of Wisconsin, 10 s.; Columbia, 16 m. 21 s. In 1899, at Poughkeepsie miles straightaway course, University of Pennsylvania again winner, time, 20 m. 4 s.; University of Wisconsin, 20 m. 5½ s.; Cornell, 20 m. 13 s.; Columbia, 20 m. 20 s.

OXFORD-CAMBRIDGE, BOAT RACES

In 24 races between these crews, from 1876 to 1899, at Putney-Mortlake Course, Cambridge won 8, Oxford 15, one was a tie.

CROQUET-ROQUE

C. G. Williams, of Washington, won the championship at Norwich, Conn., in August, 1899, with 12 games to credit and 2 lost. W. H. Whally, of Washington, champion for 1898, was second with 11 games won and three lost. In the second division, P. N. Beck won first honors with a record of 13 games won and 1 lost. In the third division there was a tie between W. H. Congdon, of Norwich, and W. H. Whally, of Washington. The scientific development of the game justified the Association in changing the title to the National Roque Association, under which title it hereafter be known.

WEIGHT THROWING, HAMMER THROWING, S PUTTING

J. S. Mitchell, as an amateur, holds the American and World's record for throwing a 56-lb. hammer from

circle a distance of 35 ft. 10½ in. W. L. Coudon, as an amateur, holds the American and the World's record for throwing a 12-lb. hammer from a 7-ft. circle a distance of 164 ft. 2 in. T. Carroll holds the American and World's record, as a professional, for throwing a 12-lb. hammer from 7-ft. circle 183 ft. 6 in. J. Flanagan holds the amateur record for throwing a 16-lb. hammer from a 7-ft. circle 167 ft. 8 in. G. R. Gray holds the record for putting a 12-lb. shot 55 ft. 2 in. C. Henneman held for a time the American and World's record for throwing the discus, 4½ lbs. weight, from a 7-ft. circle a distance of 118 ft. 9 in. But in 1899 Sheldon, in the contests on Franklin Field, Philadelphia, threw the discus 120 ft. 5 in.

AMATEUR HURDLE-RACING RECORDS

H. L. Williams ran 100 yds., jumping 8 hurdles, each 3 ft. 6 in., high in 13½ s.; F. C. Puffer ran 200 yds., jumping 10 hurdles of same height, in 26½ s.; G. Schwegler ran 250 yds., jumping 10 hurdles, each 2 ft. 6 in. high, in 31½ s.; W. H. McAlister ran 440 yds., jumping 20 hurdles, each 3 ft. 6 in., in 69 s.

JUMPING AND VAULTING RECORDS

Standing high jump, without weights, R. C. Ewry, an amateur, cleared 5 ft. 3½ in. Standing high jump, with weights, T. F. Kearney, professional, 5 ft. 8½ in. Running high jump, without weights, M. F. Sweeney, 6 ft. 5½ in. Running high jump, with weights, R. W. Baker, professional, 6 ft. 6½ in. Standing jump for distance without weights, R. C. Ewry, amateur, 11 ft. 7 in. and J. Darby, a professional, 12 ft. 1½ in. Standing

jump for distance, with weights, J. Chandler and G. L. Helwig, amateurs, are a tie, 12 ft. 9½ in. and J. Darby, professional, 14 ft. 9 in. Running jump for distance without weights, M. Prinstein, amateur, 24 ft. 7½ in.; with weights, J. Howard, professional, 29 ft. 7 in. Pole vault for height, R. G. Clapp, amateur, 11 ft. 10½ in. Pole vault for distance, A. H. Green, amateur, 27 ft. 5 in. Bar vaulting with two hands, A. H. Brundage, amateur, 7 ft. 7 in.

MISCELLANEOUS SPORTING RECORDS

F. McDaniells holds the running broad jump record on skates, 21 ft. 7 in.; B. Quinn holds the record for throwing the lacrosse ball, 497 ft. 7½ in.; R. C. Campbell, holds the record for throwing the base-ball, 381 ft. 2½ in.; C. R. Partridge holds the record for batting the base-ball, 354 ft. 10 in.; W. H. Game holds the record for throwing the cricket ball, 382 ft. 3 in.; C. E. Raynor climbed up 35 ft. 8 in. of rope in 14½ s., using hands and feet; L. Strange climbed up and down 60 ft. of rope in 4 m., using hands and feet; B. Sanford climbed 18 ft. of rope in 5½ s., using hands alone; E. E. Allen climbed 38 ft. of rope in 20½ s., using hands alone.

REVOLVER AND PISTOL RECORDS

C. S. Richmond, Savannah, Ga., July 8th, 1899, made a clean score of 25 consecutive bull's eyes, 25 shots, 50 yds., off hand, in the Military Revolver Record. In the 100-shot Pistol Record, 50 yds. standard American target, J. E. Gorman, San Francisco, August 15, 1899, made 929 points out of a

ossible 1,000. In the Military Revolver Record, 100 shots, 0 yds., Dr. A. A. Webber, at Glendale Shooting Park, L. ., Sept. 20th, 1899, made 455 points at a possible 500, 90 of the hots being in the bull's eye. In the Pistol 22 Caliber record, 10-shot score, possible 100, at 50 yds., C. H. East-nan, Walnut Hill range, Mass., Sept. 9th, 1899,, made 96 ; his was tied by J. T. Humphrey on the same range, Oct. 1st, 1896.

POOL RECORDS

Jerome R. Keogh, of Scranton, Pa., played a 3-night xhibition match at Daly's Academy, New York, with lfred DeOro, of New York, former champion. DeOro then hallenged Keogh for the championship, and the match was layed in Chicago, in 1899, under the regular championship onditions, 600 balls, 200 each night. The score was as llows: 1st night, DeOro 208, Keogh, 145 ; 2d night, eOro 192, Keogh, 118 ; 3d night, DeOro, 200, Keogh 252. als, DeOro, 600, Keogh, 515. Fred. J. Payton, of Omaha, n challenged DeOro for the championship, and the match s played at Daly's Academy, New York, with this score : night, DeOro, 205, Payton, 182 ; 2d night, DeOro, 199, ton, 170 ; 3d night, DeOro, 196, Payton, 127. Totals, ro, 600, Payton, 479.

SHOT-GUN RECORDS

ne interesting records were made at Atlantic City, N. ig. 24th, 1899, 100 live birds per man ; 30 yds. rise, 50 oundary. J. A. R. Elliott, 95 ; C. A. Young, 93. Sept. t Holmesburg Junction, Pa., same conditions, J. A. ott, 96 ; E. H. Buckwalter, 92. Sept. 21st, at Yardville,

N. J., same conditions, J. A. R. Elliott, 95 ; Chas. Zwirlein; 81. Oct. 3d, Kansas City, Mo., same conditions, W. R. Crosby, 98 ; J. A. R. Elliott, 97. Next day at the same place, same conditions, J. A. R. Elliott, 100, W. R. Crosby, 97. Oct. 26th, Nashville, Tenn., same conditions, J. A. R. Elliott, 99, J. DeBow, 93.

RIFLE RECORDS

In the individual Championship Match held at Greenville Shooting Park, Jersey City, November 7th, 1899, 100 shots off-hand, 200 yards, with a possible 2,500 points, Michael Dorrier, of Jersey City, made a score of 2,246 ; Fred C. Ross, New York City, 2,208 ; and Dr. W. G. Hudson, New York City, 2,182. At the same place, November 18th, L. P. Hansen made 240 points out of a possible 250. Hansen's score ties the record. On November 6th, at Denver, Col., C. C. Ford, of the Rifle Club, in a ten-shot score, possible 50, at 500 yards, Creedmoor target, made the following score: 50, 48, 48, 50. On November 13th he made 49, 50, 50, 50. These scores were consecutive.

PUGILISM—HOLDERS OF CHAMPIONSHIPS

Bantam Weight, Terry McGovern, of Brooklyn ; Feather Weight, George Dixon, of Boston ; Light Weight, Frank Erne, of Buffalo ; Welter Weight, "Mysterious" Billy Smith ; Middle Weight, Robt. Fitzsimmons ; Heavy Weight, James J. Jeffries, Los Angeles, Cal.

FOOTBALL RECORDS

The following records include all games whether by regular teams, or by freshmen, reserves, law students, or others.

connected with any of the colleges named. In 1896 Harvard won 8 and lost 2; Yale won 10 and lost 2; Princeton won 12 and lost 1; University of Pennsylvania won 12 and lost 2; Cornell won 2 and lost 3; Carlisle Indians lost 4. In 1897 Harvard won 13 and lost 1; Yale won 11 and lost 2; Princeton won 11 and lost 3; University of Pennsylvania won 11 and lost 4; Cornell won 6 and lost 3; Carlisle Indians won 2 and lost 2. In 1898 Harvard won 5; Yale won 2 and lost 2; Princeton won 2; University of Pennsylvania won 3; Cornell won 2 and lost 1. In 1899, Harvard won 5; Yale won 3 and lost 2; Princeton won 6 and lost 1; University of Pennsylvania won 3 and lost 2; Cornell won 1; Carlisle Indians won 1 and lost 2.

IX. VITAL STATISTICS

Birth Rate.—From the latest and most reliable reports it is an important fact that the birth rate in most European countries is steadily decreasing. The number of children born alive annually per 1,000 women of 15 to 50 years of age is: France, 102; Ireland, 114; Belgium, 127; England, 136; Netherlands, 137; Spain, 141; Prussia, 150; Bavaria, 156. From the above it will be observed that the French is the least prolific and the German the most prolific people in Europe.

Productiveness.—The most productive age for mothers is 15 to 24 years; for fathers, 23 to 31 years. The chance of paternity at 65 years of age is 3 in 1,000; at 69 it is only 2 in 1,000.

Barrenness.—One woman in 20 and one man in 30 are barren. This is about 4 per cent. of population. Among

the nobility of England 21 per cent. have no children. This is ascribed largely to the intermarriage of cousins.

Illegitimacy.—In 1896 the number of illegitimate births per 10,000 women was : Austria, 239 ; Hungary 151 ; Denmark, 133 ; Sweden, 125 ; Belgium, 111 ; Italy, 98 ; Norway, 92 ; Scotland, 87 ; France, 79 ; Germany, 75 ; Switzerland, 53 ; England, 50 ; Netherlands, 42 ; Ireland, 24.

CAUSES OF DEATH

Out of every 10,000 deaths, consumption carries off 1,960 in Russia, 1,820 in Belgium, 1,270 in Germany, 1,120 in France, 1,110 in Switzerland, 1,100 in England, 1,020 in Scandinavia, 950 in Netherlands, 900 in Italy.

Plagues.—There were 196 destructive plagues in Europe between 1300 and 1840. The black death, which came from Persia in 1346, was the most terrible recorded in history. It was preceded by swarms of locusts which filled the wells and poisoned the water. At Bagdad 500,000 died in 90 days; at Cairo, 10,000 died in 24 hours. It lasted four years in Europe and carried off 24,000,000 people. More than 30,000 towns and villages were entirely depopulated. Ships were often met at sea with all on board dead. London lost 100,000 persons by this plague ; Florence, 100,000 ; Valencia, 100,000 ; Venice, 70,000 ; Naples, 60,000 ; Paris, 50,000 ; Genoa, 40,000 ; Vienna, 40,000.

Leprosy.—There are 131,618 lepers in India, and in France there are 420,000 people afflicted with goitre.

CAPITAL PUNISHMENT

The death penalty is forbidden by law in Maine, Rhode Island, Michigan, Wisconsin, and Colorado. It was abol-

ished in Iowa, but afterward restored. In Rhode Island the one alternative is imprisonment for life. The usual method is by hanging, but in New York and Ohio the death penalty is inflicted by electricity

SUICIDES

The number of suicides per 100,000 inhabitants in European cities is as follows : Dresden, 51 ; Paris, 42 ; Berlin, 36 ; Genoa, 31 ; Lyons, 29 ; Vienna, 28 ; Stockholm, 27 ; Christiana, 25 ; London, 23 ; Brussels, 15 ; Amsterdam, 14 ; Constantinople, 12 ; Geneva, 11 ; Moscow, 11 ; Rome, 8 ; Milan 6 ; Madrid, 3 ; Lisbon, 2.

The Average Annual Suicide Rate in countries of the world per 100,000 persons is as follows : Saxony, 31 ; Denmark, 26 ; Austria, 21 ; Switzerland, 20 ; France, 16 ; Germany, 14 ; Victoria, 11 ; New South Wales, 9 ; Sweden, 8 ; Norway, Belgium, England and Wales, 7 ; Italy, 4 ; United States, $3\frac{1}{2}$; Russia, 3 ; Ireland, 2 ; Spain, $1\frac{1}{2}$.

The Number of Suicides in the United States from 1882 to 1887 was 8,226. The principal cause was insanity ; the favorite method, shooting ; summer the favorite season ; June the favorite month.

LONGEVITY

The average duration of human life is 33 years. One-quarter of the people on the earth die before the age of 6 ; one-half before the age of 16 ; only about one person out of every hundred lives to the age of 65. The deaths are calculated at 67 a minute, or more than 1 every second. The births are calculated at 70 a minute. At this rate the world's population increases over 1,150,000 every year.

CENTENARIANS IN THE UNITED STATES.

In the poorhouses of the United States there were, in 1890, 73,045 paupers ; 40,741 of these being males, and 32,304 females.

TABLE OF ALL THE PAUPERS 100 YEARS OLD AND OVER

Age	Male	Female	Total	Age	Male	Female	Total
100 to 104.....	40	51	91	123.....	1	1	2
105 to 109.....	16	18	34	125.....	0	1	1
110 to 114.....	6	9	15	128.....	0	1	1
115 to 119.....	5	6	11				
122.....	0	1	1	Total.....	68	88	156

Of the oldest *five* paupers *four* are women, and belong to the following states : Missouri (122), South Carolina (123), Tennessee (125) and Alabama (128). The man (age, 123) was in a Georgian institution. All five were colored.

Between 90 and 94 years old, there were 345 men and 271 women. Between 95 and 99 years old, 80 men and 75 women.

X. CARE OF HOUSE ANIMALS

Treatment of Dogs.—For bruises, apply arnica and bandage closely.

For distemper, cease diet of meat, give an emetic, or let the dog inhale fumes of sulphur for a few minutes each day.

For diarrhœa, feed boiled rice and milk and dose with castor oil.

For trouble with the eyes, ears, or mouth, wash with alum water.

For fits, give less meat.

For fleas, wash with mild carbolic acid soap.

For lice, soak the dog's coat in oil and wash him thoroughly the next day.

For mange, wash frequently with soap sold for the purpose. Use lukewarm water in washing or bathing the dog. Avoid all common soaps and such dog soaps as contain an excess of carbolic acid, as the alkali makes the coat harsh. Furnish a clean, warm, dry, and well ventilated kennel. Change bedding frequently. Use disinfectants occasionally.

Care of Canaries.—For asthma, mix a little sulphur with the seed, or dissolve a small quantity of camphor in the drinking water. Supply lettuce, chickweed, watercress, or other green food.

For baldness, wash the head with salt and water, rub with lard.

For costiveness, give a little castor-oil in sweetened fresh milk.

For diarrhoea, give a little rhubarb, powdered chalk and ground ginger mixed with the seed.

For huskiness, give him boiled milk to drink instead of water for several days; then mix some finely scraped beef with a little water and hard-boiled yolk of egg.

For loss of voice, gum-water with paregoric and green food will restore it.

During the period of molting, keep warm, feed with raw scraped beef and hard-boiled yolk of egg.

For pip, apply sweet oil; prick the ulcer with a needle, then bathe with warm water. A little magnesia or camphor may be given in the drink.

A little booklet sent free on application to the BIRD FOOD.

COMPANY of Philadelphia, Pa., gives full and explicit instructions concerning the care and treatment of all cage birds.

Bird Seed.—Sicily seed is the very best kind of seed. Keep the floor of the cage strewed with red gravel. Renew every day or two. Avoid lump sugar and other delicacies.

Bird Cages.—A little sulphur in a silk bag suspended in the cage will keep out insects. For mocking-birds this is essential to their health. Sulphur will keep red ants from the cages of all kinds of birds.

Cats.—The treatment for cats is, in the main, similar to that given for dogs.

XI. CARE AND TREATMENT OF HOUSE PLANTS

Soil.—If the soil is heavy, mix with coarse, sharp sand. Leaf mold is adapted to most plants. The surface soil under the sod along the roadside is usually rich and loose. Renew the soil whenever it fails to furnish sufficient life to the plant.

Re-potting.—Growing plants may be readily transferred to larger pots without disturbing the roots. Invert the pot upon the hand, knock the edge of the pot upon a bench or chair, which will loosen it from the earth, when it may be lifted off. Keep a supply of rich earth on hand. Fill in to the larger pot until, with the roots and the earth attached thereto, there is enough to fill the pot. Press closely and water freely. Set in the shade for a day or two, and the plant will grow with renewed life.

Watering.—Too much water sours the soil and the plant becomes diseased ; too little robs it of life. Water every part of the plant thoroughly, but not too often. When the surface of the soil looks moist the plant needs no water. Delicate plants should have the chill taken off the water.

Drainage.—Pieces of pots or brick broken into the size of a hickory nut, should be put in the bottom of the pot to the depth of one to three inches, and covered with a bit of sod or moss. The surplus water will thus drain off through the hole in the bottom of the pot.

Exposure.—For most plants a southern or eastern exposure is best. If too hot, they may be protected by newspapers during the heat of the day. Flowering plants require much sunshine. If kept in the windows, have them open as much as possible without chilling the plant.

Cleanliness.—Frequent shower-baths are essential to the life of the plant. This removes the dust and keeps the pores of the leaves open. Remove every dying leaf and faded flower.

Shapeliness.—Pinch back the stronger branches and give those on the weaker side a chance to develop, and thus preserve the symmetry of the plant. Turn the plants frequently so as to equalize the sunlight.

Insects.—Ivory soap is a good and convenient insecticide. Shave a quarter of a pound into a pint of water and set on the stove to dissolve. Then add four or five gallons of water and apply by spraying or washing.

The red spider, a minute but destructive insect, may be kept off plants by frequent washing. The aphid, or green plant louse, may be easily removed by dipping the top of the plant in a strong decoction of tobacco stems and waste

leaves. The mealy bug may be routed by dissolving two ounces of fir-tree oil soap in water brought to the boiling point, adding two gallons of water, and apply thoroughly with a syringe or sprayer. Scale may be removed by rubbing with a stiff brush, afterward wash with the fir-tree oil soap. For worms in the soil dissolve a piece of perfectly fresh lime, the size of a large orange, in a pail of water. Saturate the soil thoroughly with the lime water, not using the sediment.

Rest.—Plants, like animals, require rest. Those intended for winter use should not be allowed to bloom in the summer. Keep them dormant. Use no fertilizers and apply water sparingly. Re-pot in the early fall, keep the windows open as much as possible and accustom the plant gradually to the change from outdoor to indoor life.

Window Boxes.—The soil in window boxes and hanging baskets dries up very quickly, hence the flowers need to be watered thoroughly at least once a day. Failure arises nine times out of ten from lack of moisture.

Boxes for window plants can be made quite plain or ornamented, and afterward painted a light green. Stocks, scarlet geraniums, and mignonette grow well in boxes. The edges next the street may be planted with blue lobelia, verbenas, or other trailing plants. The ends of the boxes may be planted with morning glories and canary bird flower, to be trained on wires up and around the windows.

Fresh Flowers.—To keep cut flowers fresh put them over night in a bowl of cold water. Renew the water in the vases every day, and add a pinch of salt or a piece of charcoal.

Ferns.—A light but shady place, in a window not facing

the south is best suited to ferns. Good drainage is important.

Frost-bitten Plants.—Plunge them into a tub or pail of cold water. When thawed, put them in a moderately warm room, but not near the fire.

To Preserve from Ants.—To keep ants from plants lay a circle of chalk or lime around the plant.

To Preserve Plants from Slugs and Snails.—Take a piece of unslacked lime in each hand ; hold it in water until you find it begin to get warm ; then put it to slack in an old pot or pail. In about an hour it will be fit for use. With a trowel scatter it about the places infested. The best time to apply it is late at night or early in the morning, when the slugs or snails are crawling about.

The following is also recommended. Cut a large turnip into thin slices and lay them on the ground most infested. On taking them up in the morning after a wet night, the inside will be found covered with slugs ; scrape them off into a pot, destroy them with lime, and replace the turnip slices.

Water the soil with salt and water, two pounds of salt to four gallons of water. To keep snails and slugs from dahlias, place lettuce leaves about the roots.

Window Gardening in Winter.—Water all plants in the morning ; leave no water in the saucer of any plant after the soil has become saturated ; give the whole a good soaking, otherwise the top of the mould is wetted, while the roots are dry. Sponge over the foliage when it becomes dusty ; with a pointed stick, occasionally stir the surface of the soil, but *do not disturb the roots*. Give each plant space for air *to circulate around it ; let it have a little fresh air at times.*

Let the plant assume the spreading, fan-like form which is the only natural one for window-plants. Do not expose plants in pots out of doors, during cool nights, or to bright sunshine. The cold of our nights, even during summer, will often injure, if it does not kill, plants not gradually inured to it ; while the bright sunshine of a summer's day will often wither or kill plants which have previously had only the tempered light of a greenhouse.

Cut Flowers.—These may be kept for a long period by burning their stems with a piece of wood.

Soot Preserves Plants.—Sowing soot with peas will save them from mice. When they come up if soot is sprinkled over them while they are damp, sparrows will not touch them. Soot is also valuable for carnations and tulips in any ground where wireworms abound. It is not only a destroyer of insects, but also a rich manure. If soot were sown in wireworm eaten grounds when potatoes were planted, there would be no scabbed or punctured skinned tubers.

To Preserve Natural Flowers in Winter.—Choose some of the most perfect buds of the flowers you would preserve, such as are latest in blooming and ready to open ; cut them off with a knife, leaving to each a piece of the stem about three inches long ; cover the end of the stem with Spanish wax, and when the buds are a little shrunk and withered, enclose and seal each of them separately in a piece of paper, perfectly clean and dry, and preserve them untouched in a box or drawer, where they will keep without corrupting. In winter when you would have the flowers blow, cut off the ends of the stems sealed with wax, and *place them in water wherein a little nitre or salt has been placed, and the next day the buds will open and expand*

themselves, the flowers displaying their most lively colors, and breathing their agreeable odors.

To Destroy Woodlice.—Keep a toad or two in the frames. Boiling water poured along the sides of the pits inside, will destroy them. A trap may be formed by placing two tiles or boards over each other, between which the woodlice crawl to conceal themselves as morning approaches. They may then be captured and destroyed. Tiles laid over cabbage leaves form good traps, as do also dry hollow stalks of any kind.

XII. TO DESTROY HOUSE PESTS

How to get rid of Flies.—Tansy, elder, and walnut leaves are said to drive them away. A decoction of strong green tea, sweetened, will attract and poison them.

Flies will not alight on picture frames or furniture if washed or brushed over with water in which have been boiled three or four onions to a pint.

To Banish Rats and Mice.—These may be driven from fields and barns by the common mullein plant, or garlic bulbs, laid around in small bunches.

Oil of rhodium and oil of anise seed, rubbed on meat, will attract rats to a trap. Capsicum sprinkled freely in the holes and left where the rats can get it will drive them away.

“Rough on Rats” used according to directions is usually effectual. It is a poison, and should not be left where children or pet animals can get at it.

To expel Mosquitoes.—I. Take a piece of gum camphor the size of a walnut, and evaporate it by placing it in a tin vessel and holding it over a lamp. Be careful that it does

the nobility of England 21 per cent. have no children. It is ascribed largely to the intermarriage of cousins.

Illegitimacy.—In 1896 the number of illegitimate birth per 10,000 women was : Austria, 239 ; Hungary 151 ; Denmark, 133 ; Sweden, 125 ; Belgium, 111 ; Italy, 98 ; Norway 92 ; Scotland, 87 ; France, 79 ; Germany, 75 ; Switzerland 53 ; England, 50 ; Netherlands, 42 ; Ireland, 24.

CAUSES OF DEATH

Out of every 10,000 deaths, consumption carries off 1,96 in Russia, 1,820 in Belgium, 1,270 in Germany, 1,120 in France, 1,110 in Switzerland, 1,100 in England, 1,020 in Scandinavia, 950 in Netherlands, 900 in Italy.

Plagues.—There were 196 destructive plagues in Europe between 1300 and 1840. The black death, which came from Persia in 1346, was the most terrible recorded in history. It was preceded by swarms of locusts which filled the well and poisoned the water. At Bagdad 500,000 died in 90 days at Cairo, 10,000 died in 24 hours. It lasted four years in Europe and carried off 24,000,000 people. More than 30,00 towns and villages were entirely depopulated. Ships were often met at sea with all on board dead. London lost 100,000 persons by this plague ; Florence, 100,000 ; Valencia 100,000 ; Venice, 70,000 ; Naples, 60,000 ; Paris, 50,000 Genoa, 40,000 ; Vienna, 40,000.

Leprosy.—There are 131,618 lepers in India, and in France there are 420,000 people afflicted with goitre.

CAPITAL PUNISHMENT

The death penalty is forbidden by law in Maine, Rhode Island, Michigan, Wisconsin, and Colorado. It was abo

ished in Iowa, but afterward restored. In Rhode Island the one alternative is imprisonment for life. The usual method is by hanging, but in New York and Ohio the death penalty is inflicted by electricity

SUICIDES

The number of suicides per 100,000 inhabitants in European cities is as follows : Dresden, 51 ; Paris, 42 ; Berlin, 36 ; Genoa, 31 ; Lyons, 29 ; Vienna, 28 ; Stockholm, 27 ; Christiana, 25 ; London, 23 ; Brussels, 15 ; Amsterdam, 14 ; Constantinople, 12 ; Geneva, 11 ; Moscow, 11 ; Rome, 8 ; Milan 6 ; Madrid, 3 ; Lisbon, 2.

The Average Annual Suicide Rate in countries of the world per 100,000 persons is as follows : Saxony, 31 ; Denmark, 26 ; Austria, 21 ; Switzerland, 20 ; France, 16 ; Germany, 14 ; Victoria, 11 ; New South Wales, 9 ; Sweden, 8 ; Norway, Belgium, England and Wales, 7 ; Italy, 4 ; United States, $3\frac{1}{2}$; Russia, 3 ; Ireland, 2 ; Spain, $1\frac{1}{2}$.

The Number of Suicides in the United States from 1882 to 1887 was 8,226. The principal cause was insanity ; the favorite method, shooting ; summer the favorite season ; June the favorite month.

LONGEVITY

The average duration of human life is 33 years. One-quarter of the people on the earth die before the age of 6 ; one-half before the age of 16 ; only about one person out of every undred lives to the age of 65. The deaths are calculated at a minute, or more than 1 every second. The births are calculated at 70 a minute. At this rate the world's population increases over 1,150,000 every year.

CENTENARIANS IN THE UNITED STATES.

In the poorhouses of the United States there were, in 1890, 73,045 paupers ; 40,741 of these being males, and 32,304 females.

TABLE OF ALL THE PAUPERS 100 YEARS OLD AND OVER

Age	Male	Fe- male	Total	Age	Male	Fe- male	Total
100 to 104.....	40	51	91	123.....	1	1	2
105 to 109.....	16	18	34	125.....	0	1	1
110 to 114.....	6	9	15	128.....	0	1	1
115 to 119.....	5	6	11				
122.....	0	1	1	Total.....	68	88	156

Of the oldest *five* paupers *four* are women, and belong to the following states : Missouri (122), South Carolina (123), Tennessee (125) and Alabama (128). The man (age, 123) was in a Georgian institution. All five were colored.

Between 90 and 94 years old, there were 345 men and 271 women. Between 95 and 99 years old, 80 men and 75 women.

X. CARE OF HOUSE ANIMALS

Treatment of Dogs.—For bruises, apply arnica and bandage closely.

For distemper, cease diet of meat, give an emetic, or let the dog inhale fumes of sulphur for a few minutes each day.

For diarrhoea, feed boiled rice and milk and dose with castor oil.

For trouble with the eyes, ears, or mouth, wash with *alum water*.

For fits, give less meat.

For fleas, wash with mild carbolic acid soap.

For lice, soak the dog's coat in oil and wash him thoroughly the next day.

For mange, wash frequently with soap sold for the purpose. Use lukewarm water in washing or bathing the dog. Avoid all common soaps and such dog soaps as contain an excess of carbolic acid, as the alkali makes the coat harsh. Furnish a clean, warm, dry, and well ventilated kennel. Change bedding frequently. Use disinfectants occasionally.

Care of Canaries.—For asthma, mix a little sulphur with the seed, or dissolve a small quantity of camphor in the drinking water. Supply lettuce, chickweed, watercress, or other green food.

For baldness, wash the head with salt and water, rub with lard.

For costiveness, give a little castor-oil in sweetened fresh milk.

For diarrhoea, give a little rhubarb, powdered chalk and ground ginger mixed with the seed.

For huskiness, give him boiled milk to drink instead of water for several days; then mix some finely scraped beef with a little water and hard-boiled yolk of egg.

For loss of voice, gum-water with paregoric and green food will restore it.

During the period of molting, keep warm, feed with raw scraped beef and hard-boiled yolk of egg.

For pip, apply sweet oil; prick the ulcer with a needle, then bathe with warm water. A little magnesia or camphor may be given in the drink.

A little booklet sent free on application to the BIRD FOOD.

COMPANY of Philadelphia, Pa., gives full and explicit instructions concerning the care and treatment of all cage birds.

Bird Seed.—Sicily seed is the very best kind of seed. Keep the floor of the cage strewn with red gravel. Renew every day or two. Avoid lump sugar and other delicacies.

Bird Cages.—A little sulphur in a silk bag suspended in the cage will keep out insects. For mocking-birds this is essential to their health. Sulphur will keep red ants from the cages of all kinds of birds.

Cats.—The treatment for cats is, in the main, similar to that given for dogs.

XI. CARE AND TREATMENT OF HOUSE PLANTS

Soil.—If the soil is heavy, mix with coarse, sharp sand. Leaf mold is adapted to most plants. The surface soil under the sod along the roadside is usually rich and loose. Renew the soil whenever it fails to furnish sufficient life to the plant.

Re-potting.—Growing plants may be readily transferred to larger pots without disturbing the roots. Invert the pot upon the hand, knock the edge of the pot upon a bench or chair, which will loosen it from the earth, when it may be lifted off. Keep a supply of rich earth on hand. Fill in to the larger pot until, with the roots and the earth attached thereto, there is enough to fill the pot. Press closely and *water freely*. Set in the shade for a day or two, and the *plant will grow with renewed life*.

Watering.—Too much water sours the soil and the plant becomes diseased; too little robs it of life. Water every part of the plant thoroughly, but not too often. When the surface of the soil looks moist the plant needs no water. Delicate plants should have the chill taken off the water.

Drainage.—Pieces of pots or brick broken into the size of a hickory nut, should be put in the bottom of the pot to the depth of one to three inches, and covered with a bit of sod or moss. The surplus water will thus drain off through the hole in the bottom of the pot.

Exposure.—For most plants a southern or eastern exposure is best. If too hot, they may be protected by newspapers during the heat of the day. Flowering plants require much sunshine. If kept in the windows, have them open as much as possible without chilling the plant.

Cleanliness.—Frequent shower-baths are essential to the life of the plant. This removes the dust and keeps the pores of the leaves open. Remove every dying leaf and faded flower.

Shapeliness.—Pinch back the stronger branches and give those on the weaker side a chance to develop, and thus preserve the symmetry of the plant. Turn the plants frequently so as to equalize the sunlight.

Insects.—Ivory soap is a good and convenient insecticide. Shave a quarter of a pound into a pint of water and set on the stove to dissolve. Then add four or five gallons of water and apply by spraying or washing.

The red spider, a minute but destructive insect, may be kept off plants by frequent washing. The aphid, or green *plant louse*, may be easily removed by dipping the top of the plant in a strong decoction of tobacco stems and waste

leaves. The mealy bug may be routed by dissolving two ounces of fir-tree oil soap in water brought to the boiling point, adding two gallons of water, and apply thoroughly with a syringe or sprayer. Scale may be removed by rubbing with a stiff brush, afterward wash with the fir-tree oil soap. For worms in the soil dissolve a piece of perfectly fresh lime, the size of a large orange, in a pail of water. Saturate the soil thoroughly with the lime water, not using the sediment.

Rest.—Plants, like animals, require rest. Those intended for winter use should not be allowed to bloom in the summer. Keep them dormant. Use no fertilizers and apply water sparingly. Re-pot in the early fall, keep the windows open as much as possible and accustom the plant gradually to the change from outdoor to indoor life.

Window Boxes.—The soil in window boxes and hanging baskets dries up very quickly, hence the flowers need to be watered thoroughly at least once a day. Failure arises nine times out of ten from lack of moisture.

Boxes for window plants can be made quite plain or ornamented, and afterward painted a light green. Stocks, scarlet geraniums, and mignonette grow well in boxes. The edges next the street may be planted with blue lobelia, verbenas, or other trailing plants. The ends of the boxes may be planted with morning glories and canary bird flower, to be trained on wires up and around the windows.

Fresh Flowers.—To keep cut flowers fresh put them over night in a bowl of cold water. Renew the water in the vases every day, and add a pinch of salt or a piece of charcoal.

Ferns.—A light but shady place, in a window not facing

the south is best suited to ferns. Good drainage is important.

Frost-bitten Plants.—Plunge them into a tub or pail of cold water. When thawed, put them in a moderately warm room, but not near the fire.

To Preserve from Ants.—To keep ants from plants lay a circle of chalk or lime around the plant.

To Preserve Plants from Slugs and Snails.—Take a piece of unslacked lime in each hand ; hold it in water until you find it begin to get warm ; then put it to slack in an old pot or pail. In about an hour it will be fit for use. With a trowel scatter it about the places infested. The best time to apply it is late at night or early in the morning, when the slugs or snails are crawling about.

The following is also recommended. Cut a large turnip into thin slices and lay them on the ground most infested. On taking them up in the morning after a wet night, the inside will be found covered with slugs ; scrape them off into a pot, destroy them with lime, and replace the turnip slices.

Water the soil with salt and water, two pounds of salt to four gallons of water. To keep snails and slugs from dahlias, place lettuce leaves about the roots.

Window Gardening in Winter.—Water all plants in the morning ; leave no water in the saucer of any plant after the soil has become saturated ; give the whole a good soaking, otherwise the top of the mould is wetted, while the roots are dry. Sponge over the foliage when it becomes dusty ; with a pointed stick, occasionally stir the surface of the soil, but do not disturb the roots. Give each plant space for air to circulate around it ; let it have a little fresh air at times.

Let the plant assume the spreading, fan-like form which is the only natural one for window-plants. Do not expose plants in pots out of doors, during cool nights, or to bright sunshine. The cold of our nights, even during summer, will often injure, if it does not kill, plants not gradually inured to it ; while the bright sunshine of a summer's day will often wither or kill plants which have previously had only the tempered light of a greenhouse.

Cut Flowers.—These may be kept for a long period by burning their stems with a piece of wood.

Soot Preserves Plants.—Sowing soot with peas will save them from mice. When they come up if soot is sprinkled over them while they are damp, sparrows will not touch them. Soot is also valuable for carnations and tulips in any ground where wireworms abound. It is not only a destroyer of insects, but also a rich manure. If soot were sown in wireworm eaten grounds when potatoes were planted, there would be no scabbed or punctured skinned tubers.

To Preserve Natural Flowers in Winter.—Choose some of the most perfect buds of the flowers you would preserve, such as are latest in blooming and ready to open ; cut them off with a knife, leaving to each a piece of the stem about three inches long ; cover the end of the stem with Spanish wax, and when the buds are a little shrunk and withered, enclose and seal each of them separately in a piece of paper, perfectly clean and dry, and preserve them untouched in a box or drawer, where they will keep without corrupting. In winter when you would have the flowers blow, cut off the ends of the stems sealed with wax, and place them in water wherein a little nitre or salt has been placed, and the next day the buds will open and expand

themselves, the flowers displaying their most lively colors, and breathing their agreeable odors.

To Destroy Woodlice.—Keep a toad or two in the frames. Boiling water poured along the sides of the pits inside, will destroy them. A trap may be formed by placing two tiles or boards over each other, between which the woodlice crawl to conceal themselves as morning approaches. They may then be captured and destroyed. Tiles laid over cabbage leaves form good traps, as do also dry hollow stalks of any kind.

XII. TO DESTROY HOUSE PESTS

How to get rid of Flies.—Tansy, elder, and walnut leaves are said to drive them away. A decoction of strong green tea, sweetened, will attract and poison them.

Flies will not alight on picture frames or furniture if washed or brushed over with water in which have been boiled three or four onions to a pint.

To Banish Rats and Mice.—These may be driven from fields and barns by the common mullein plant, or garlic bulbs, laid around in small bunches.

Oil of rhodium and oil of anise seed, rubbed on meat, will attract rats to a trap. Capsicum sprinkled freely in the holes and left where the rats can get it will drive them away.

“Rough on Rats” used according to directions is usually effectual. It is a poison, and should not be left where children or pet animals can get at it.

To expel Mosquitoes.—I. Take a piece of gum camphor the size of a walnut, and evaporate it by placing it in a tin vessel and holding it over a lamp. Be careful that it does

not ignite. The smoke will soon fill the room and expel the mosquitoes.

II. Burn Persian insect powder.

III. The best thing to do is to have wire nets in all the windows and doors.

To Destroy Bed-bugs and Cockroaches.—Sprinkle with corrosive sublimate applied with a feather. Turpentine alone, or turpentine and kerosene in equal parts applied freely with a brush will drive them away. Iron bedsteads are preferable for servants.

Powdered borax sprinkled about, or the genuine Persian powder, will drive cockroaches away.

To Destroy Ants.—Sprinkle powdered borax, mixed with a little sugar, about the shelves. For red ants place green sage in the closet, or a small bag of sulphur.

To Destroy Moths.—These insects may be kept from carpets by pouring strong alum-water on the floor half a yard around the edges before laying the carpet. Sprinkle dry salt over the carpet occasionally before sweeping.

Pieces of camphor or tallow rolled in paper, leaves of tansy, cedar chips, blotting-paper sprinkled with turpentine or dipped in melted paraffine, if scattered among the clothing will preserve it from moths. Newspapers laid closely over the articles are protective.

To Drive Away Fleas.—A small lump of camphor in the bath is said to render the skin of a human being safe against flea bites. The odor of pennyroyal will drive them away.

To rid Dogs and Cats of Fleas.—Take four ounces of foxglove leaves, pour two quarts of boiling water, and with

this, when cold, wash the animal. This operation may be repeated three or four times a year.

Tansy dried, is excellent sheep-food, and, when fresh, makes a capital litter for domestic animals. Its peculiar balsamic odor drives away fleas, and a dog, sleeping on a bed of fresh tansy, is immediately freed from them. It should be renewed when the leaves become dry.

A room infested with fleas may be cleansed by having a boy wrap a piece of fly paper about each leg just above the ankle and walk up and down the room many times. The fleas will jump at his ankles and stick fast to the paper.

XIII. HELPFUL HINTS

How to Treat Hens.—Get a common tea-chest or box, put a sloping roof to it, made of a few pieces of board. Cut a hole at one end, like that for a dog-kennel. In front of this put a pen or frame made of lath or wire. Provide the hen with food and water daily. She cannot get out, and will return to the eggs in a very short time. In this way you would have hens when setting entirely under your command.

Give every day to each chick affected with the gapes a morsel of camphor the size of a grain of wheat, and put camphor in the drinking water ; or a little turpentine may be given daily in meal.

For roup, keep the fowls warm, and feed with meal only, mixed with hot ale instead of water. Give daily, in the bolus of the meal, half a grain of cayenne pepper, with half a grain of powdered allspice. Give also half a cabbage-leaf every day. Wash the head and eyes of the fowl morning and evening with very diluted vinegar, or a five grain solution of sulphate of zinc.

Soft shelled eggs are generally caused by over-feeding. If due to want of lime, this may be supplied in calcined and pounded oyster-shells.

Dust the hens thoroughly with powdered coke or with sulphur. Whitewash the hen house thoroughly.

Keep a piece of raw meat for hens to peck at, and they will never break their own eggs, and will lay in winter as well as in summer.

How to Boil Meats and Fish.—Allow a quarter of an hour per pound, and a quarter of an hour additional for fresh beef and mutton, and twenty minutes per pound and twenty minutes over for salt beef and pork.

Fish should be put into well salted boiling water, boiled for a minute or two, then drawn back and let simmer from eight to ten minutes per pound.

For soup stock, meat should be put into cold, not boiling, water, and allowed to simmer till done.

Importance of Properly Cooking Meats.—A well-cooked piece of meat should be full of its own juice or natural gravy. In roasting, therefore, it should be exposed to a quick fire, that the external surface may be made to contract at once, before the juice has had time to escape from within. When a piece of beef or mutton is plunged into boiling water, the outer part contracts, the albumen which is near the surface coagulates and the internal juice is prevented from escaping into the water or being diluted and weakened by the admission of water among it. When cut up, therefore, the meat yields much gravy, and is rich in flavor. A steak or chop should be done quickly and over a clear fire, that the natural juices may be retained.

Preserve the Meat Drippings.—Beef, pork, veal and

lamb drippings should be carefully kept and used instead of lard for frying. They are better, as well as cheaper. To clarify dripping, pour from the meat-pan into a bowl; add boiling water and a little salt, stir and set away. When cold, run knife around the bowl, and, unless it is pork, it will turn out in a cake, leaving the water and impurities at the bottom. Scrape the bottom of your dripping, put it in more boiling water till it melts, stir again, add salt, and let it cool. After a third scraping of the cake melt it into the general crock.

To Prevent the Odor of Cooking.—A little salt sprinkled on the stove will remove any disagreeable odor.

How to Boil Potatoes.—Select potatoes of the same size, or, if varying, boil the large and small ones separately; wash them clean, and without paring, put them in a sauce-pan with cold water, scarcely sufficient to cover them. If the potatoes are tolerably large, it will be necessary, as soon as they begin to boil, to throw in some cold water, and occasionally repeat it till the potatoes are boiled to the center, which may be ascertained by trying them with a fork. A little salt thrown in occasionally while boiling is a great improvement. The slower potatoes boil, the better they will be cooked. When boiled, pour off the water, and evaporate the moisture, by replacing the vessel in which the potatoes were boiled once more over the fire; this makes them remarkably dry and mealy.

How to Brown Flour.—Scatter flour evenly on a large flat baking-pan and stir often till it is a pale brown. This will be found useful for thickening stews, hash, etc.

How to Select Flour.—Good flour is white, with a

slightly yellowish tint. If very white, with a bluish cast or with black specks in it, reject it.

Wet and knead a little of it between the fingers ; if it works dry and elastic, it is good ; if soft and sticky, it is poor. Flour made from spring-wheat is likely to be sticky.

Throw a little lump of dry flour against a dry, smooth, perpendicular surface ; if it adheres in a lump, the flour has life in it ; if it falls like powder, it is bad.

Squeeze some of the flour in your hand ; if it retains the shape given by the pressure, that, too, is a good sign.

To Make a Brilliant Whitewash.—Take half a bushel of fine unslacked lime ; slack it with boiling water, covering it during the process to keep in the steam. Strain the liquor through a fine sieve, and add to it a peck of clean salt, previously dissolved in warm water, three pounds of ground rice, pounded to a thin paste and stirred and boiled hot, half a pound of powdered Spanish whiting, and a pound of clean glue, which has been previously dissolved by first soaking it well, and then hanging it over a slow fire, in an old kettle, with a large one filled with water. Add five gallons of hot water to the whole mixture ; stir it well and let it stand a few days covered from dust. It should be put in quite hot ; for this purpose it can be kept in a kettle or a portable furnace. About one pint of this mixture will cover a square yard upon the outside of a house, if properly applied. It retains its brilliancy for many years, and there is no composition can compare with it, for either the inside or the outside of walls.

Another Way of Making Whitewash.—Sixteen pounds of Paris white to half a pound of white transparent glue. Cover the glue with cold water at night, and in the

morning carefully heat it without scorching till dissolved. The Paris white is stirred in with hot water enough to give the proper milky consistency for applying to the walls, and the dissolved glue is then added and thoroughly mixed. Apply with a brush in the usual way, and if the walls are not very dirty, one coat will be sufficient. A little alum added will keep the whitewash from rubbing off. When powdered chalk is used, glue water is also good, but will not do for outside work exposed to much rain. By adding small quantities of lampblack, brown sienna, ocher, or other coloring material, you can give the wash any desired color.

How to Whitewash a Room.—If a ceiling or wall is to be whitewashed or colored, wash off the dirt and stains with a brush and clean water, being careful to move the brush up and down, or in one direction, and not all sorts of ways. When dry, the ceiling is ready for the whitewash, which may be made by one of the above recipes. Stone-color is made by mixing a little yellow ochre and blue black with the size, or glue, and then stirring it into the whitewash; yellow and red ochre are also good colors, and with vermillion or indigo, any desired shade may be had.

To Make a Good Mucilage.—Dissolve five cents' worth of gum arabic in half a pint of water. To prevent its turning sour add a drop of glycerine.

Boiled starch makes an excellent paste for scrap-books. Flour and water will serve when mucilage is not to be had.

Affixing Postage Stamps.—The taste of the gum on postage stamps is very unpleasant, and sometimes dangerous. Wet the corner of the envelope and the stamp will adhere equally well.

To Prevent the Feet of Horses from Balling.—11

the frog in the hoofs of horses and the fetlock be and well rubbed with soft soap, previous to their g in snowy weather, it will effectually prevent their from balling the snow. Serious accidents may be prevented by this simple precaution.

To make a Waterproof Blacking.—The following is said to be a waterproof blacking which will give a fine polish without rubbing and will not injure the leather: 18 parts beeswax, 6 parts spermaceti, 66 parts oil of turpentine, 5 parts asphalt varnish, 1 part powdered borax, 5 parts Frankfort black, 2 parts Prussian blue, 1 part nitro-benzol. Melt the wax, add the powdered borax, and stir until a kind of jelly has been formed. In another pan melt the spermaceti, add the asphalt varnish, previously mixed with the oil of turpentine, stir well, and add to the wax. Lastly add the color, previously rubbed smooth with a little of the mass.

An Inexpensive Crumb-cloth.—A red table-cloth that is too much faded to be used on the table may be converted into a good crumb cloth. Starch it stiff, iron perfectly smooth, pull the edges straight and even; pin it to the carpet instead of tacking it, for then it will not be so much trouble to take it up. It will keep clean a long time, and is convenient to use when the other is up to be cleaned.

To Loosen Glass Stoppers.—Drop a few drops of ammonia into the crack around the stopper. Tap the stopper sharply but not too hard with a clothes pin or stick of wood. Heat the neck of the bottle slightly with hot water, or over gas or lamp.

To Loosen Clinkers.—Put oyster-shells, one at a time, in the stove when the fire is burning brightly, and the clinkers will loosen from the sides of the fire-bricks.

Fix Paints for Tints:

k make.....Brown.
 te and a little Venetian Red make.....Buff.
 rown make.....Chestnut.
 netian Red make.....Chocolate.
 w and Venetian Red make.....Cream.
 e and Venetian Red make.....Drab.
 and Vermillion make.....Flesh Color.
 ite make.....French White
 e at Black make.....Gray, Pearl.
 Lam Black make.....Gray, Silver.
 Green make.....Green, Bright.
 Emerald Green make.....Green, Brilliant.
 and Black make.....Green, Dark.
 Green make.....Green, Pea.
 Lamp-Black make.....Lead Color.
 Black and Red make.....Olive.
 low make.....Orange.
 ad Color make.....Pearl
 armine make.....Pink
 and Lake make.....Purple
 hite make.....Rose
 ellow make.....Straw Color.

Pre a Candle so that it will not Blow out.
 salt upon a linen rag, and wrap it around the
 candle may then be lighted, and it will continue
 out being extinguished even in a strong wind.

Promote Sleep.—Just previous to retiring to
 lie feet in slightly warm water, or take a brisk
 open air.

XIV. THE BEDROOM

How to Clean Featherbeds.—When feather beds come soiled or heavy scrub them with a stiff brush or broom dipped in hot soap-suds. When clean, lay them on a board where the rain will fall on them. When thoroughly soaked let them dry in a hot sun for six or seven successive days shaking them up well and turning them each day. Cover them at night for the night air will cause them to become damp, and mildew.

To Correct Damp Beds.—To prevent the guest from taking cold by sleeping in a bed that has not been in use for some time fill a large stone bottle with boiling water, and put into the bed, which, with the bolster and pillows, should be pressed round it in a heap. Care must be taken to have the bottle well corked. Heated bricks wrapped with paper or cloth or heated sand bags will serve the purpose as well.

To secure Ventilation.—Health demands pure air for the bedroom. Open the window an inch or two at top and bottom, even in the coldest weather. The extra bed covering is a small price for the improved health secured. By means of screens or curtains avoid draughts of air.

Airing the Bed.—The bed clothing, pillows, and bolsters should be shaken up and exposed to the air, the windows being thrown wide open for an hour or more in the morning before the bed is made up.

Importance of Cleanliness.—The sheets and pillows take up the waste matter from the skin and breath, and should be frequently changed to secure health.

XV. THE BATH

Borax for the Bath.—A teaspoonful or two of powdered borax thrown into the tub before bathing will impart a softness to the water and refresh the bather. Especially valuable to those troubled with insomnia.

Cold Cream as a Wash.—Where soft coal is used, persons are apt to have grimy faces, and those who travel will find streaks of grime on cheeks and nose. Soap and water will not remove this effectually. Rub the face with cold cream or vaseline and wipe thoroughly with a towel.

To cleanse the Hair.—To cleanse the hair and keep the scalp healthy, beat up the white of a fresh egg and rub it well into the hair, until a lather is formed; occasionally wet the hands in warm water, softened with borax. By the time a lather is formed, the scalp is clean. Then rinse the hair in a basin of warm water, containing a tablespoonful of powdered borax; after that, rinse in one of clear, warm water. A weak solution of ammonia in water makes a good wash for the hair, and stimulates its growth when impaired by fever. It cleanses the scalp effectually.

Sage tea is also an excellent preparation. The hair should be carefully brushed and braided in two firm braids, and the roots rubbed with a sponge dipped in lukewarm sage tea. The braids can then be washed and dried with a towel. This preserves the color of the hair, and keeps the scalp clean. A little pulverized borax in water cleans the hair thoroughly.

Soap should not be used, as it makes the hair brittle. *Brushing is of great importance. A little ammonia in water is good.*

The use of this shampoo will keep the hair in perfect condition, rendering it soft and glossy : Shake the yolk of an egg in half a pint of alcohol till thoroughly mixed. Strain and there will be a clear fluid left, which will keep for an indefinite period. Into each basin of water used for washing the hair put one or two tablespoonfuls of this liquid. Rub well into the scalp and through the hair. Rinse in clean warm water. Rub with a linen towel till partly dry, and then take a large fan and fan vigorously till perfectly dry, when the hair will be delightfully soft and glossy.

To Preserve the Complexion.—Take a little dry oat-meal on a plate, pour on just enough cold water to make it thin, strain through a small sieve, and, dipping a cloth into the water, wash over the face once or twice, and let it dry.

Also rub the face with cold cream or vaseline every night before going to bed, and then rub the grease carefully off with a towel.

Care of the Teeth.—Brush night and morning, and if possible rinse after each meal. Use a soft brush and a simple powder. Nothing is better than prepared chalk and orris root. The powder may be used every time the teeth are brushed.

Cleansing Properties of Hartshorn.—Keep some strong spirits of hartshorn in a glass or rubber-stopped bottle. A teaspoonful in a tablespoonful of water will clean combs and brushes and restore colors injured by acids. A few drops in the water when washing makes it soft and pleasant, and also removes the grease-spots from carpets and clothing. A weak solution scattered over the leaves of plants from a soft, fine, limber brush gives them new life.

A little sprinkled over the earth at their roots will invigorate their growth.

Care of Sponges.—Leave for some hours in water in which a large lump of common soda has been dissolved.

To Remove Dandruff.—Dissolve a little pulverized borax in water and wash the head thoroughly. If the continued use of borax produces extreme dryness, put one ounce of flowers of sulphur into one quart of water, agitate often for several hours, then pour off the clear liquid, and saturate the head with it every morning.

Brittle Finger-nails.—To cure brittle finger-nails, oil them a little just before going to bed, and after washing the hands.

To Polish Combs.—Put a teaspoonful of sperm oil on a chamois skin and add rotten-stone, as much as the oil will take up. Rub the comb, or other shell work, with the rotten-stone and oil, and finish with dry rotten-stone, using the dry part of the chamois. Never wash a chamois. Keep it for polishing; it will last for years.

Lubricating Oil.—In delicate machinery, fine locks, jewelry, etc., use nothing but the best sperm oil. All other oils, instead of lubricating, leave a gum that will soon ruin a machine or lock.

To Prevent the Loss of Hair.—An infusion of tea has been found very useful in hot countries for preventing the hair from falling. Pour boiling water on the leaves after they have been used for a meal, and allow them to steep for three or four hours. The liquid may then be poured off, and used as a wash.

To Cleanse Hair Brushes.—To clean the brush put a *tablespoonful of ammonia* into a quart of water—hot or cold.

Dip into this the bristles, so held that the back of the brush is not wet, and soon all the oil and dust are loosened. When clean rinse in cold water, beat this on a towel folded many times, and dry in the open air. Sun will harden the bristles so fast that they split. Soap will soften them too much, and in the end not clean so well as the weak ammoniac.

Almond Oil.—Cold cream disagrees with many skins. Try rubbing a little sweet almond oil, slightly perfumed with attar of roses or bergamot, into the skin every night after washing. It should be well massaged in, and the face then gently wiped with a soft rag or towel till all superfluous oil is removed.

To Prepare an Almond Bag.—Take one pound of fine oatmeal, one pint of nice clean bran, two-fifths pound each of powdered orris root and best almond meal, one-fourth pound powdered castile soap and one ounce of primrose sachet powder. This makes a good large amount, and it should be put away in glass jars closely covered. Fill a bath bag as needed and do not use more than two or three times as the oatmeal will soon sour.

XVI. THE LAUNDRY

How to Wash Flannels.—Wash them in moderately hot clean water in which you can comfortably bear your hand. Make suds before putting the flannels in; and do not rub soap on the flannel. Have only one piece of flannel in the tub at a time. Wash in two suds if much soiled; then rinse thoroughly in clear, warm water; wring and hang up; *but do not take flannels out of warm water and hang them in a freezing air, as that certainly will shrink them.* Dry them

in the house, unless the sun shines. In washing worsted goods, such as men's pantaloons, pursue the same course. Do not wring them, but hang them up and let them drain. While a little damp, press smoothly with as hot an iron as can be used without scorching the goods. Wringing them produces wrinkles.

To Wash Woolens.—They should be washed in clean, hot soap suds; rinse in clear hot water, and shake out the wet without passing through the wringer.

To Preserve the Colors in Washing Linens.—If a tablespoonful of black pepper be stirred into the first water in which they are washed, it will prevent gray or buff linens from spotting. It will also prevent the colors running, when washing black or colored cambrics or muslins.

How to Wash Lawn.—To wash lawns boil two quarts of wheat-bran in six quarts of water for half an hour. Strain through a coarse towel and mix in the water in which the muslin is washed. Use no soap or starch. Rinse in clean water.

To Wash Pongee.—Wash and iron the same day. Never sprinkle, as that produces stains. Dampen evenly with a cloth and iron.

To press silk pongee lay it between two clean cotton cloths, and press with an iron not too hot.

To Wash Colored Tablecloth.—A red tablecloth should not be ironed. Wash carefully in warm suds, not hot; rinse well, and when ready to hang on the line, pull it so that it will keep proper shape.

To Wash Lace.—To wash lace cover a long bottle with *fine white flannel*, and with needle and thread, tack the *edges of the lace* upon it, being careful to fasten down every

little point, and to lay the lace quite straight. Have plenty of lukewarm water and soap, and press the bottle with the hands till the lace is clean ; then rinse in the same way. Put it in the sun to dry ; dip bottle and all, in weak starch or gum arabic water, then wrap clean cambric round it, and let it dry in the open air. Tea or coffee, if put into the water in which it is rinsed after stiffening, will give a yellow tint if desired. When quite dry, unfasten the lace and it will rarely need to be ironed.

Black lace may be washed in the same way, but no soap should be used, a few drops of ammonia or a pint of warm water in which a teaspoonful of borax has been dissolved, being substituted. It should never be ironed, nor placed near the fire, as the heat will turn it rusty.

To Prevent Shrinking Flannel.—Pour cold water on it in a tub and let it soak for some hours, then stretch and dry. Flannel should be shrunk before being made up.

To Set Color.—In washing calicos, put a teaspoonful of sugar of lead in a pailful of water, and soak fifteen minutes before washing.

To Make a Soap Bag.—Make a flannel bag about five or six inches square and put in it the bits of toilet soap that are too small to use in the regular way, and use the bag as you would a cake of soap.

To Prepare Starch.—Wet a cupful of starch in cold water. Then pour on it a quart of boiling water ; add a teaspoonful of salt, a teaspoonful of white sugar, and a small piece of spermaceti and let it boil for ten minutes, stirring frequently.

Flat-irons.—If rough, rub with wax tied up in muslin or paper ; if sticky, rub on a piece of fine sandpaper ; if rusted,

our them with marble dust or salt ; if rubbed on a cloth urated with kerosene they will not scorch.

Health Value of Flannel.—The principal advantage in : use of flannel is its non-conducting property of sensible it : it protects the body against the too rapid escape of s important fluid. It also protects against sudden reduc- n of temperature. By virtue of its non-conducting power, : system is saved from a prodigious expenditure of heat, a time when its sudden escape might be attended with ects of the most serious kind. Again, it powerfully guards : body against the cooling ects of evaporation when in late of perspiration ; and, by preventing a too sudden ape, it keeps a considerable portion of heat constantly oled to the surface of the skin by means of this vapor, l thus hinders it from leaving the body too suddenly. •

To Soften Water.—To make hard water soft put half acupful of wood-ashes into a woolen bag ; cover this h cotton cloth to prevent the ashes sifting out ; let this in the water until it is warm enough to use for washing. boil the water, adding to it a little baking soda ; and ose to the atmosphere.

To Whiten Clothes.—Put a teaspoonful of borax in : rinsing water ; it will whiten the clothes, and also ove the yellow cast on garments that have been laid de for two or three years.

VII. TO KEEP FRUITS, VEGETABLES, EGGS, MEATS, ETC.

To Keep Dried Fruit.—To preserve dried fruit scat- a little *sassafras* bark among it. This will, it is said, e away those insects which are so apt to spoil the fruit.

Preservation of Flour, Butter, etc.—Flour should not be kept in a store-room or pantry where there is cooked food, as it readily absorbs odors. Ignorance of this fact accounts for poor bread oftener than an inferior quality of flour.

Keep it in a cool, dry, airy room, where it is not exposed to a freezing temperature, nor to one above seventy degrees and always sift before using. It should not be kept in a place where there are onions, fish, vegetables, decaying, or other odorous substances, nor in a damp room or cellar.

Articles of food made of gelatine or of milk should be kept covered, as both absorb not only odors, but germs.

Cheese, cabbage, fish and baked beans should never be put into the refrigerator. They all leave an odor of which it is difficult to rid the refrigerator, and they also flavor the food.

Butter should be kept in a tightly closed jar. If any is left over on a plate it should be covered.

Cooked foods of all kinds should be cooled before they are placed in the refrigerator.

How to Freshen Vegetables.—Unless vegetables are taken direct from the garden, they are always improved by freshening in clear cold water. This is especially true of cabbage, cauliflower, lettuce, cucumbers and pie-plant. New potatoes are soaked thus, the work of scraping them is made much easier and the potatoes themselves will be found mealier. Onions should always be put in cold water before cooking in order to remove the acrid part of the vegetable.

To Preserve Eggs.—To each pailful of water, add two pints of fresh slacked lime and one pint of common salt.

Mix well. Fill the barrel half full with this fluid, put the eggs down in it any time after June, and they will keep two years if desired.

II. To keep fresh, put them with the small end down in dry salt, and keep cool.

III. Pack eggs in a jar, small end downward, and then pour in a mixture of four quarts of slacked lime, two table-spoonfuls of cream tartar, and two of salt.

To Keep Fresh Meat.—Farmers or others living at a distance from butchers can keep fresh meat very nicely for a week or two, by putting it into sour milk, or buttermilk, placing it in a cool cellar. The bone or fat need not be removed. Rinse well when used.

To Keep Game from Taint.—Cover with charcoal. Game that is even a little tainted already may be made palatable in this way.

How to Treat Salt Meat and Fish.—May be made more palatable by soaking over night in cold water, to lessen the degree of salt.

How to Treat Vegetables.—All vegetables, when cut, may be kept fresh by putting the stalks into water. Do not immerse them, for this favors decomposition. Parsley in particular should be guarded from a watery grave. Carrots, turnips, and the like, if placed in layers in a box of sand, will keep for many weeks. Boiled potatoes ought to be laid out on a plate, and are then as good for frying or mashing as if they were freshly cooked.

To Preserve Lemons.—Put them into a crock and cover with water. They will keep in winter two or three months.

To Preserve Hams.—Place your hams in a barrel or

box, and fill up the space around and above them with common salt. The meat, being smoked and dry, does not take any more salt; neither does it mildew. The salt can afterward be used for salting stock, the same as any other.

How to Treat Fermentation.—The remedy for preserves that have "turned," is to boil them over again, adding sugar.

XVIII. FURNITURE

How to Prepare Glue.—Put eight ounces of glue in a wide-mouthed bottle, and add half a pint of water. Place the bottle in water and heat until the glue is dissolved. Then stir in slowly two and a half ounces of strong nitric acid. Cork tightly. The glue thus prepared is always ready, and may be used in mending furniture, broken vessels, and articles not exposed to water.

To Clean Furniture.—A mixture, in equal parts, of linseed oil and vinegar will do wonders in cleaning furniture.

To Renovate Old Furniture.—Wash the furniture with hot soft water, then wash with a mixture composed of a quart of vinegar, a handful of common salt, and a tablespoonful of muriatic acid. Boil the mixture fifteen minutes, and apply as much as may be needed. Afterward polish with a soft woolen rag. The mixture may be kept in a bottle ready for use. It must be warmed before using.

To Remove White Spots.—Spirits of camphor or ammonia will remove white spots from furniture. If on a mahogany table and caused by a hot dish or boiling water, rub in oil, then pour a little spirits of wine, and rub with a dry soft cloth.

XIX. TO CLEAN AND PRESERVE CLOTHING

To Renew Cashmere.—First clean thoroughly; then sponge it all over with a weak solution of borax water—using a teaspoonful of powdered borax to a quart of hot water. If grease-spots are to be removed, add more borax, and use a brush with a very little soap; rinse off with clean hot water. If necessary, press with a hot iron on the wrong side

Another method is to take very hot water, a quart to a cup of benzine, wash off the cashmere well, and press it on the wrong side when damp.

To Restore Velvet.—To restore the pile, steam on the right side till heated through. Dampen with a sponge or cloth on the wrong side. Have some one hold a hot iron, bottom upward, and pass the wet side of the velvet slowly over the flat surface. When the steam rises thickly through to the right side, it will raise the pile with it.

To Freshen Grenadine.—To stiffen black grenadine take one pint of mucilage; add one quart cold water; stir well; have a sponge well cleaned, which dip into the solution, and softly brush the grenadine, and hang up in a cool place until dry.

To Remove the Odor of Clothes.—Clothes that have an unpleasant odor from being kept from the air, may be made sweet and fresh by laying pieces of charcoal in the folds of the garments. Air them thoroughly before wearing.

Care of Silk and Velvet.—Brown or blue paper is good, but the yellowish, smooth India paper is the best of all, for wrapping articles of silk. The chloride of lime used in bleaching white paper is apt to destroy the color. Silk in-

tended for dresses should be made up promptly. Lying in the folds will cause it to cut or split, particularly if the silk has been thickened by gum. Thread-lace veils are very easily cut.

Hard silks should never be wrinkled, because the thread is easily broken in the crease, and cannot be restored.

Velvet.—Velvet dresses should not be laid by with any weight above them ; if the nap of a thin velvet is laid down, it is not possible to raise it up again. To take wrinkles out of silk scarfs and handkerchiefs moisten the surface evenly with a sponge and some weak glue ; pin the silk on a mattress or feather bed, taking pains to draw it out as tight as possible. When dry the wrinkles will have disappeared. Some silk articles should be moistened with weak glue or gum water, and the wrinkles ironed out by a hot flat-iron on the wrong side.

To Dye Silk or Satin.—Make a strong dye by steeping green horse-radish leaves in water. Dip the silk or satin into the dye thoroughly, and wash in soft-soap suds. This will dye it a beautiful old gold color. Iron while damp, laying a cloth over the silk or ribbon. Black silk may be sponged with cold coffee and ammonia.

Putting Away Woolen Clothes.—Brush and beat them clean ; hang them on the line in the open air and sun for several hours ; put them into clean paper sacks, or old cotton or linen pillow-cases, if whole ; tie them tightly so the moths cannot get at them. If moth-proof paper bags or a cedar chest can be had, these will be better than the pillow-cases.

To Cleanse Gloves.—A piece of stale bread, rubbed over the glove, will often remove small spots. Benzine carefully rubbed over them with a flannel till dry is also effective.

or, put on kid gloves and wash in gasoline, as if washing the hands. Rub dry on a piece of flannel. Let them dry on the hands. Do not go near flame or fire. When quite dry, air and sun them.

Disinfection of Clothes.—Sponge with a teaspoonful of milk-of-sulphur in a pint of water, then iron.

Care of Furs.—Shake well, put into a close box with leaf-tobacco, camphor, or black pepper wrapped in small papers and scattered through the box. Moth tar-paper is a good preservative. Cover closely with old newspapers, and be sure the cover of the box or trunk fits closely. A tallow candle in or near them will obviate all danger from worms.

To Straighten Whalebones.—To straighten whalebones hold them in the steam of boiling water.

To Make Boots Waterproof.—Boil one quart linseed oil, with half a pound Venice turpentine, with which paint the leather frequently while warm, but not hot, till the leather will absorb no more.

Defaced, black kid boots will be greatly improved by being rubbed well with a mixture of cream and ink, in equal parts.

Kerosene will always soften boots or shoes which have been hardened by water, and render them as pliable as when new.

To Preserve Stockings.—Children's stockings will last much longer if soft flannel, pieces of old stocking, or bits of chamois are sewed inside the knees.

The color of faded pale-blue stockings may be restored by dipping them into hot water in which common bluing has been poured, and some lumps of alum dissolved. Old white stockings can be colored in this way, and do a good deal of service.

XX. GEOGRAPHICAL AND HISTORICAL

RIVERS 1,000 MILES LONG AND OVER

Name of River	Miles	Country in Which Located
Amazon.....	3,944	Peru, Ecuador and Brazil.
Amoor.....	2,200	Eastern Asia.
Araguay.....	1,300	Brazil.
Arkansas.....	2,170	Utah, Indian Territory, Colorado.
Brahmaputra.....	1,500	Asia.
Chingua.....	1,150	Brazil.
Colorado.....	2,000	Utah, Wyoming, California.
Columbia.....	1,400	Oregon, Washington, British North America.
Congo.....	1,700	Congo and Loango, Africa.
Danube.....	1,750	Central Europe.
Dnieper.....	1,200	Russia.
Euphrates.....	1,600	Western Asia.
Ganges.....	1,557	Hindustan.
Hloang-Ho.....	2,500	China.
Indus.....	1,960	Asia.
Irrawaddy.....	1,200	Farther India.
Irish.....	2,200	North Asia.
Japura.....	1,000	Brazil and Columbia.
Kama.....	1,200	Russia.
Kiou-long-kiang.....	1,200	Thibet, China, etc.
Kuskogum.....	1,500	Alaska.
Kwickpak.....	1,800	Alaska.
Lena.....	2,500	Siberia.
Mackenzie.....	1,700	British North America.
Madeira.....	2,000	South America.
Mississippi.....	2,616	North America.
Missouri.....	3,096	United States.
Murray.....	1,000	Victoria, Australia.
Muy Kuang.....	1,300	China.
Niger.....	2,300	Central Africa.
Nile.....	3,500	Northeast Africa.
Obi.....	2,700	Asiatic Russia.
Orange.....	1,000	South Africa.
Orinoco.....	1,500	Venezuela.
Paraguay.....	1,800	Paraguay and Brazil.
Parana.....	1,860	Uruguay.
Pilcomago (or Araguaí).....	1,000	Bolivia and Paraguay.
Platte (or Nebraska).....	1,200	Wyoming and Colorado.
Red River and Branches....	2,100	Texas, Indian Territory, Arkansas, Louisiana.
Rio Grande.....	1,800	United States and Mexico.

RIVERS 1,000 MILES LONG AND OVER—*Continued.*

Name of River	Miles	Country in Which Located
Negro.....	2,200	Columbia and Venezuela.
phalen.....	1,000	Manchuria.
Francisca.....	1,400	Brazil.
katchewan.....	1,000	British North America.
egal.....	1,000	Senegambia.
it-el-Arab.....	1,800	Persia.
ris.....	1,150	Turkey and Persia.
catines.....	1,300	Brazil.
ayali.....	1,200	Peru.
il.....	1,800	Russia.
guay.....	1,020	Brazil and Uruguay.
ga.....	2,400	Russia.
ig-tse-Kiang.....	2,500	China.
lowstone.....	1,000	Wyoming, Montana, Dakota.
isei.....	2,300	Siberia.
kon.....	1,850	Alaska.
nbesi.....	1,800	Eastern Africa.

REMARKABLE WATERFALLS

igara Falls, North America.....	164 feet
ntmorency Falls, Quebec, Canada.....	250 "
chikin Falls, Kamschatka.....	300 "
sterbaum, Lake Theen, Switzerland.....	900 "
ls of Arve, Savoy.....	1,100 "
osola Cascade, Alps, Switzerland.....	2,400 "

LENGTH OF NAVIGATION OF THE MISSISSIPPI RIVER

The length of navigation of the Mississippi River itself for
linary large steamboats is about 2,161 miles, but small
amers can ascend about 650 miles farther. The following

are its principal navigable tributaries, with the miles open to navigation :

	Miles		Miles
Missouri.....	2,000	Black.....	147
Red.....	986	Tensas.....	112
Ohio.....	950	Monongahela.....	110
Arkansas.....	884	Kentucky.....	105
White.....	779	Bartholomew.....	100
Cumberland.....	600	Kenawha.....	94
Yellowstone.....	474	Muskingum.....	94
Ouachita.....	384	Teche.....	91
Wabash.....	365	Chippewa.....	90
Illinois.....	350	Iowa.....	80
Allegheny.....	325	Big Hatchie.....	75
Osage.....	302	Rock.....	64
Minnesota.....	295	Black.....	61
Sunflower.....	271	Macon.....	60
Tennessee.....	270	Beauf.....	55
Yasoo.....	228	Cane.....	54
Atchafalaya.....	218	Big Horn.....	50
Green.....	200	Clinch.....	50
St. Francis.....	180	D'Arbonne.....	50
Tallahatchie.....	175	Little White.....	48
Lafourche.....	168	Cypress.....	48
Issaquena.....	161	Big Black.....	3
Wisconsin.....	160		

The other navigable tributaries have less than fifty miles each of navigation. The total miles of navigation of these forty-five streams is about 16,500 miles, or about two-thirds the distance around the world. The Mississippi and its tributaries may be estimated to possess 15,550 miles navigable to steamboats, and 20,221 miles navigable to barges.

FICTITIOUS NAMES OF STATES

- Arkansas, Bear State.
- Connecticut, Freestone State ; Nutmeg State.
- Delaware, Diamond State ; Blue Hen's Chickena.
- Florida, Peninsular State.

Illinois, Prairie State.
Indiana, Hoosier State.
Iowa, Hawkeye State.
Louisiana, Creole State.
Maine, Lumber State ; Pine Tree State.
Massachusetts, Bay State ; Old Colony.
Michigan, Lake State.
Mississippi, Bayou State.
New Hampshire, Granite State.
New York, Empire State ; Excelsior State.
North Carolina, Old North State ; Turpentine State.
Ohio, Buckeye State.
Pennsylvania, Keystone State.
South Carolina, Palmetto State.
Texas, Lone Star State.
Vermont, Green Mountain State.
Virginia, Mother of Presidents ; Old Dominion.
Wisconsin, Badger State.

FICTITIOUS NAMES OF CITIES

AMERICAN CITIES

Alton, Ill., Tusselburgh.
Akron, O., Summit City.
Baltimore, Md., Monumental City.
Birmingham, O., Bran Town.
**Boston, Mass., Puritan City ; Hub of the Universe ; City
of Notions ; Athens of America.**
Brooklyn, N. Y., City of Churches.
Buffalo, N. Y., Queen City of the Lakes.

Cincinnati, O., Queen City ; Porkopolis ; Queen of the West ; Paris of America.
 Chicago, Ill., Garden City ; Windy City.
 Cleveland, O., Forest City.
 Dayton, O., Gem City of Ohio.
 Detroit, Mich., City of the Straits.
 Duluth, Minn., Zenith City.
 Hannibal, Mo., Bluff City.
 Holyoke, Mass., Paper City.
 Indianapolis, Ind., Railroad City.
 Kansas City, Mo., Mushroomopolis.
 Keokuk, Ia., Gate City.
 Lafayette, Ind., Star City.
 Lowell, Mass., City of Spindles ; Manchester of America.
 Louisville, Ky., Falls City.
 Madison, Wis., Lake City.
 Milwaukee, Wis., Cream City.
 Minneapolis, Minn., City of Flour.
 Nashville, Tenn., City of Rocks.
 New Haven, Conn., City of Elms.
 New Orleans, La., Crescent City.
 New York, Gotham ; Empire City ; Metropolitan City.
 Pekin, Ill., Celestial City.
 Philadelphia, Pa., Quaker City ; City of Brotherly Love ; City of Homes.
 Pittsburg, Pa., Iron City ; Smoky City ; Birmingham of America.
 Portland, Me., Forest City.
 Paterson, N. J., Lyons of America.
 Peoria, Ill., Whisky Town.
 Quincy, Ill., Gem City.

Racine, Wis., Belle City.
Rochester, N. Y., Flour City.
St. Louis, Mo., Mound City.
St. Paul, Minn., Gem City.
San Francisco, Cal., Golden City.
Salem, Mass., City of Peace.
Salt Lake City, City of the Saints.
Springfield, Ill., Flower City.
Streator, Ill., City of the Woods.
Toledo, O., Corn City.
Washington, D. C., City of Magnificent Distances.

FOREIGN CITIES

Aberdeen, Scotland, Granite City.
Alexandria, Egypt, Delta City.
Cairo, Egypt, City of Victory.
Edinburgh, Scotland, Maiden Town ; Northern Athens ;
Modern Athens ; Athens of the North.
Gibraltar, Key of the Mediterranean.
Havana, Cuba, Pearl of the Antilles.
Jerusalem, Palestine, City of Peace ; City of the Great
King.
Limerick, Ireland, City of the Violated Treaty.
London, Eng., City of Masts ; Modern Babylon.
Milan, Italy, Little Paris.
Quebec, Canada, Gibraltar of America.
Rome, Italy, Eternal City ; Nameless City ; Queen of
Cities ; Seven-Hilled City ; Mistress of the World.
Venice, Italy, Bride of the Sea.
Winnipeg, Manitoba, Gate City of the Northwest.

HIGHEST MOUNTAINS IN THE WORLD

Name	Country	Feet High
Mount Everest (Himalayas).....	Thibet.....	29,002
Chimborazo.....	Ecuador.....	21,422
Sorato, the highest in America.....	Bolivia.....	21,284
Illimani.....	Bolivia.....	21,145
Hindoo-Koosh.....	Afghanistan.....	20,600
Demavend, highest of Elburz Mountains.....	Persia.....	20,000
Cotopaxi, highest volcano in the world.....	Ecuador.....	19,496
Antisana.....	Ecuador.....	19,150
St. Elias, highest in North America.....	Alaska.....	17,850
Popocatepetl, volcano.....	Mexico.....	17,540
Mount Roa, highest in Oceania.....	Hawaii.....	16,000
Pichinca.....	Ecuador.....	15,924
Mount Brown, highest peak of Rocky Mts.....	British America.....	15,900
Mont Blanc, highest in Europe, Alps.....	Savoy.....	15,732
Limit of perpetual snow at the.....	Equator.....	15,207
Mont Rosa, next highest peak of Alps.....	Savoy.....	15,150
Mount Whitney.....	California.....	14,887
Mount Fairweather.....	Alaska.....	14,500
Mount Ranier.....	Washington Territory.....	14,444
Mount Shasta.....	California.....	14,442
Mount Ararat.....	Armenia.....	14,320
Long's Peak, Rocky Mountains.....	Colorado.....	14,271
Pike's Peak.....	Colorado.....	14,216
Mount Ophir.....	Sumatra.....	13,800
Fremont's Peak, Rocky Mountains.....	Wyoming.....	13,570
Mount St. Helens.....	Washington Territory.....	13,400
Peak of Teneriffe.....	Canaries.....	12,182
Miltzin, highest of Atlas Mountains.....	Morocco.....	11,500
Mount Hood.....	Oregon.....	11,225
Mount Perda, highest of Pyrenees.....	France.....	10,950
Mount Etna, volcano.....	Sicily.....	10,835
Mount Lebanon.....	Syria.....	10,533
Monte Corno, highest of Apennines.....	Naples.....	9,523
Sneehattan, highest Dovrefield Mountains.....	Norway.....	8,115
Pinus, highest in.....	Greece.....	7,677
Black Mountain, highest in.....	North Carolina.....	6,760
Mount Sinai.....	Arabia.....	6,541
Mount Washington, highest White Mountains.....	New Hampshire.....	6,285
Mount Marcy, highest in.....	New York.....	5,402
Mount Hecla, volcano.....	Iceland.....	5,104
Ben Nevis, highest in Great Britain.....	Scotland.....	4,406
Mansfield, highest of Green Mountains.....	Vermont.....	4,280
Peaks of Otter.....	Virginia.....	4,260
Mount Vesuvius.....	Naples.....	4,253
Round Top, highest of Catskill Mountains.....	New York.....	3,804

AIR-LINE DISTANCES FROM WASHINGTON TO VARIOUS
PARTS OF THE WORLD

	Miles		Miles
Alexandria, Egypt.....	5,275	Manila, Philippine Islands.....	9,360
Amsterdam, Holland.....	3,555	Mecca, Arabia.....	6,598
Athens, Greece.....	5,005	Muscat, Arabia.....	7,600
Batavia, New Zealand.....	8,290	Monrovia, Liberia.....	3,645
Batavia, Algeria.....	3,425	Morocco, Morocco.....	3,305
Berlin, Prussia.....	3,847	Mourzouk, Fezzan.....	5,525
Bern, Switzerland.....	3,730	Mozambique, Mozambique.....	7,348
Brussels, Belgium.....	3,515	Ottawa, Canada.....	462
Cebu, Java.....	11,118	Panama, New Granada.....	1,825
Calcutta, Hindostan.....	8,548	Parana, Argentine Republic.....	4,733
Cienfuegos, Argentine Rep.....	5,013	Port au Prince, Hayti.....	1,429
Cologne, Prussia.....	3,500	Paris, France.....	3,485
Constantinople, Turkey.....	4,880	Pekin, China.....	8,783
Copenhagen, Denmark.....	3,805	Quebec, Canada.....	601
Cuttack, Hindostan.....	9,348	Quito, Ecuador.....	2,531
Delhi, China.....	9,000	Rio Janeiro, Brazil.....	4,280
Dahomey, Egypt.....	5,848	Rome, Italy.....	4,365
Diamond Town, Cape Colony.....	6,684	St. Petersburg, Russia.....	4,296
Dipe of Good Hope.....	7,380	Stockholm, Sweden.....	4,055
Guaymas, Venezuela.....	1,058	Shanghai, China.....	8,600
Harlottetown, Pr. Edward Is..	820	Singapore, Malay Peninsula.....	11,300
Havana, Ireland.....	3,076	St. John's, Newfoundland.....	1,340
Calcutta, Hindostan.....	8,368	San Domingo, San Domingo.....	4,300
Edinburgh, Scotland.....	3,275	San Juan, Nicaragua.....	1,740
Frederickton, N. Brunswick.....	670	San Salvador, Cen. America.....	1,650
Gibraltar, Spain.....	3,150	Santiago, Chile.....	4,070
Glasgow, Scotland.....	3,215	Spanish Town, Jamaica.....	1,446
Halifax, Nova Scotia.....	780	Sidney, Cape Breton Island.....	975
Hamburg, Germany.....	3,570	Sydney, Australia.....	8,963
Havana, Cuba.....	1,139	St. Paul de Loanda, W. Africa.....	5,578
Honolulu, Sandwich Islands.....	4,513	Timbuctoo, Soudan.....	3,395
Jerusalem, Palestine.....	5,495	Tripoli, Tripoli.....	4,425
Keosauqua, St. Helena.....	7,150	Tunis, Tunis.....	4,240
Lima, Peru.....	3,515	Toronto, Canada.....	343
Lisbon, Portugal.....	3,190	Venice, Italy.....	3,835
Liverpool, England.....	3,228	Vienna, Austria.....	4,115
London, England.....	3,315	Valparaiso, Chile.....	4,934
Matamoros, Mexico.....	1,867	Vera Cruz, Mexico.....	1,680
Montevideo, Uruguay.....	5,003	Warsaw, Poland.....	4,010
Montreal, Canada.....	471	Yeddo, Japan.....	7,530
Madrid, Spain.....	3,485	Zanzibar, Zanzibar.....	7,078
Moscow, Russia.....	4,446		

Things Worth Knowing

THE UNITED STATES—WHEN ADMITTED

THIRTEEN ORIGINAL STATES

	States	Ratified the Constitution		States	Ratified the Constitution
1	Delaware.....	1787, Dec. 7	8	S. Carolina.....	1788, May 13
2	Pennsylvania.....	1787, Dec. 12	9	New Hampshire.....	1788, June 13
3	New Jersey.....	1787, Dec. 18	10	Virginia.....	1788, June 20
4	Georgia.....	1788, Jan. 2	11	New York.....	1788, July 26
5	Connecticut.....	1788, Jan. 9	12	N. Carolina.....	1789, Nov. 21
6	Massachusetts.....	1788, Feb. 6	13	Rhode Island.....	1790, May 29
7	Maryland.....	1788, April 28			

STATES SINCE ADMITTED TO THE UNION

	States	Admitted		States	Admitted
1	Vermont.....	1791, Mar. 4	17	Wisconsin.....	1848, May 29
2	Kentucky.....	1792, June 1	18	California.....	1850, Sept. 9
3	Tennessee.....	1796, June 1	19	Minnesota.....	1858, May 11
4	Ohio.....	1802, Nov. 29	20	Oregon.....	1859, Feb. 14
5	Louisiana.....	1812, April 30	21	Kansas.....	1861, Jan. 29
6	Indiana.....	1816, Dec. 11	22	W. Virginia.....	1863, June 19
7	Mississippi.....	1817, Dec. 10	23	Nevada.....	1864, Oct. 31
8	Illinois.....	1818, Dec. 3	24	Nebraska.....	1867, Mar. 1
9	Alabama.....	1819, Dec. 14	25	Colorado.....	1876, Aug. 1
10	Maine.....	1820, Mar. 15	26	N. Dakota.....	1889, Nov. 3
11	Missouri.....	1821, Aug. 10	27	S. Dakota.....	1889, Nov. 3
12	Arkansas.....	1836, June 15	28	Montana.....	1889, Nov. 8
13	Michigan.....	1837, Jan. 26	29	Washington.....	1889, Nov. 11
14	Florida.....	1845, Mar. 3	30	Idaho.....	1890, July 3
15	Texas.....	1845, Dec. 29	31	Wyoming.....	1890, July 10
16	Iowa.....	1846, Dec. 28	32	Utah.....	1896, Jan. 4

THE TERRITORIES

Territories	Organized	Territories	Organized
District of Columbia..	1790, July 16	Arizona.....	1863, Feb. 24
Indian.....	1834, June 30	Alaska.....	1868, July 27
New Mexico.....	1850, Sept. 9	Oklahoma.....	1890, May 2

PRESIDENTS AND VICE-PRESIDENTS OF THE UNITED STATES

	Presi- dents	Vice- Presi- dents		Presi- dents	Vice- Presi- dents
Virginia.....	5	2	Illinois.....	1	0
New York.....	4	8	District of Columbia.....	1	0
Tennessee.....	3	1	Kentucky.....	0	2
Ohio.....	4	0	South Carolina.....	0	1
Massachusetts.....	2	3	Alabama.....	0	1
Indiana.....	1	2	Maine.....	0	1
Pennsylvania.....	1	1	New Jersey.....	0	1
Louisiana.....	1	0			
New Hampshire.....	1	0		24	23

In this list Vice-Presidents who became Presidents through the death of the Presidents elected with them, are counted once as Vice-President and once as President. They are John Tyler [succeeded W. H. Harrison], Millard Fillmore [succeeded Zachary Taylor], Andrew Johnson [succeeded Abraham Lincoln], Chester A. Arthur [succeeded James A. Garfield].

Our two youngest Presidents, when inaugurated, were Grant [47 years old] and Cleveland [48]. The two oldest, W. H. Harrison [68] and Buchanan [66]. The average age is about 55½ years.

HOW THE PRESIDENTS DIED

GEORGE WASHINGTON—His death was the result of a severe cold, contracted while riding around his farm in a rain and sleet storm on December 10, 1799. The cold increased, and was followed by a chill, which brought on acute laryngitis. Copious blood-letting is supposed by many to

have hastened his death, which occurred on December 14, 1799. He was 68 years of age.

JOHN ADAMS—He died from old age, having reached his 91st milestone. Though active mentally, he was nearly blind and unable to hold a pen steadily enough to write. He passed away without a pain on July 4, 1826.

THOMAS JEFFERSON—He died at the age of 83, a few hours before Adams, on July 4, 1826. His disease was chronic diarrhea, superinduced by old age, and, his physician said, the too free use of the waters of the White Sulphur Springs.

JAMES MADISON—He died of old age on June 28, 1836. His faculties were undimmed to the last. He was 85.

JAMES MONROE—His death occurred on July 4, 1831, in the 73d year of his age; assigned to enfeebled health.

JOHN QUINCY ADAMS—He was stricken with paralysis on February 21, 1848, while addressing the Speaker of the House of Representatives, being at the time a Member of Congress. He died in the rotunda of the Capitol. He was 81 years of age.

ANDREW JACKSON—He died on June 8, 1845, 78 years old. He suffered from consumption, and finally dropsy, which made its appearance about six months before his death.

MARTIN VAN BUREN—He died on July 24, 1862, from a violent attack of asthma, followed by catarrhal affections of the throat and lungs. He was 80 years of age.

WILLIAM HENRY HARRISON—The cause of his death was pleurisy, the result of a cold which he caught on the day of his inauguration. This was accompanied with severe

diarrhea. His death occurred on April 4, 1841, a month after his inauguration. He was 68 years of age.

JOHN TYLER—He died on January 17, 1862, at the age of 72.

JAMES K. POLK—In the spring of 1849 he was stricken with a slight attack of cholera while on a boat going up the Mississippi River. Though temporarily relieved, he had a relapse on his return home and died on June 15, 1849, aged 54 years.

ZACHARY TAYLOR—He was the second President to die in office. He is said to have partaken immoderately of ice-water and iced milk, and then later of a large quantity of cherries. The result was an attack of cholera morbus. Another authority attributes his death to a severe cold. He was 66 years old.

MILLARD FILLMORE—He died from a stroke of paralysis on March 8, 1874, in his 74th year.

FRANKLIN PIERCE—His death was due to abdominal dropsy, and occurred on October 8, 1869, in his 65th year.

JAMES BUCHANAN—His death occurred on June 1, 1868, and was caused by rheumatic gout. He was 77 years old.

ABRAHAM LINCOLN—He was shot by J. Wilkes Booth at Ford's Theater, Washington, D. C., on April 14, 1865, and died the following day, aged 56.

ANDREW JOHNSON—He died from a stroke of paralysis, July 31, 1875, aged 67.

ULYSSES S. GRANT—He died at Mt. McGregor, N. Y., July 22, 1885, the result of a malignant cancer which developed at the root of his tongue. His funeral was an impress-

ive civil and military pageant, attended by many Confederates as well as Union soldiers, and his tomb at Riverside, on the Hudson, is the most imposing mausoleum in America.

JAMES A. GARFIELD—He died at Elberon, N. J., Sept. 19, 1881, the result of a pistol shot at the hands of the assassin, Charles J. Guiteau.

CHESTER A. ARTHUR died in New York City, November 18, 1886, of Bright's disease.

RUTHERFORD B. HAYES—He died at his home in Fremont, Ohio, January 17, 1893.

POPULAR AND ELECTORAL VOTES FOR PRESIDENTS

Year	Candidates	Party	Popular Vote	Electoral Vote
1824	Andrew Jackson.....	Democrat.....	152,872	99
"	John Q. Adams.....	Federal.....	105,321	84
"	W. H. Crawford.....	Republican.....	44,282	41
"	Henry Clay.....	Republican.....	46,587	37
1828	Andrew Jackson.....	Democrat.....	647,231	178
"	John Q. Adams.....	Federal.....	509,007	83
1832	Andrew Jackson.....	Democrat.....	687,502	219
"	Henry Clay.....	Nat. Republican....	530,189	49
"	John Floyd.....	Whig.....		11
"	William Wirt.....	Whig.....		7
1836	Martin Van Buren.....	Democrat.....	761,549	170
"	W. H. Harrison.....	Whig.....		73
"	Hugh L. White.....	Whig.....		26
"	Daniel Webster.....	Whig.....	736,656	14
"	W. P. Mangum.....	Whig.....		11
1840	Martin Van Buren.....	Democrat.....	1,128,702	48
"	W. H. Harrison.....	Whig.....	1,275,917	234
1844	James K. Polk.....	Democrat.....	1,337,243	170
"	Henry Clay.....	Whig.....	1,290,968	105
1848	Zachary Taylor.....	Whig.....	1,250,101	163
"	Lewis Cass.....	Democrat.....	1,220,544	129
"	Martin Van Buren.....	Free Soil.....	291,263	

POPULAR AND ELECTORAL VOTES FOR PRESIDENTS—*Cont'd.*

Year	Candidates	Party	Popular Vote	Electoral Vote
1852	Franklin Pierce.....	Democrat.....	1,601,474	254
"	Winfield Scott.....	Whig.....	1,386,578	42
"	John P. Hale.....	Free Soil.....	156,149	
1856	James Buchanan.....	Democrat.....	1,838,169	174
"	John C. Fremont.....	Republican.....	1,341,262	114
"	Millard Fillmore.....	American.....	874,534	8
1860	Abraham Lincoln.....	Republican.....	1,866,352	180
"	Stephen A. Douglas.....	Democrat.....	1,375,157	12
"	John C. Breckenridge.....	Democrat.....	845,763	72
"	John Bell.....	Union.....	589,581	39
1864	Abraham Lincoln.....	Republican.....	2,216,067	212
"	George B. McClellan.....	Democrat.....	1,808,725	21
1868	U. S. Grant.....	Republican.....	3,015,071	214
"	Horatio Seymour.....	Democrat.....	2,709,613	80
1872	U. S. Grant.....	Republican.....	3,597,070	286
"	Horace Greely.....	Liberal and Dem.....	2,834,079	
"	James Black.....	Prohibitionist.....	5,608	
1876	R. B. Hayes.....	Republican.....	4,033,950	185
"	Samuel J. Tilden.....	Democrat.....	4,284,885	184
"	Peter Cooper.....	Greenback.....	81,740	
"	G. C. Smith.....	Prohibitionist.....	9,522	
1880	James A. Garfield.....	Republican.....	4,440,051	214
"	Winfield S. Hancock.....	Democrat.....	4,442,035	155
"	James B. Weaver.....	Greenback.....	397,306	
1884	Grover Cleveland.....	Democrat.....	4,911,017	219
"	James G. Blaine.....	Republican.....	4,848,334	182
"	Benjamin F. Butler.....	Greenback.....	133,825	
"	John P. St. John.....	Prohibitionist.....	151,800	
1888	Benjamin Harrison.....	Republican.....	5,441,902	233
"	Grover Cleveland.....	Democrat.....	5,538,560	168
"	Clinton B. Fisk.....	Prohibitionist.....	249,937	
"	Alon J. Streeter.....	Labor.....	148,105	
1892	Grover Cleveland.....	Democrat.....	5,553,142	277
"	Benjamin Harrison.....	Republican.....	5,186,931	145
"	James B. Weaver.....	People's.....	1,030,128	22
"	John Bidwell.....	Prohibitionist.....	268,361	
1896	William McKinley.....	Republican.....	7,105,959	271
"	William J. Bryan.....	Dem. and Populist.....	6,454,943	176
"	John M. Palmer.....	Gold Democrat.....	132,878	
"	Joshua Levering.....	Prohibitionist.....	131,748	
"	Charles H. Matchett.....	Social Labor.....	36,260	

Things Worth Knowing

WARS OF THE UNITED STATES

NUMBER OF UNITED STATES TROOPS ENGAGED

WARS	Date		Troops Engaged		
	From	To	Regulars	Militia and Volunteers	Total
War of the Revolution.....	April 19, 1775	April 11, 1783	130,711	164,080	309,791
Northwestern Indian wars.....	Sept. 19, 1790	Aug. 3, 1795	.....	.....	8,983
War with France.....	July 9, 1798	Sept. 30, 1800	.....	.....	4,593
War with Tripoli.....	June 10, 1801	June 4, 1805	.....	.....	3,339
Northwestern Indian war.....	Sept. 11, 1811	Nov. 11, 1811	.....	.....	910
Black Indian war.....	July 27, 1813	Aug. 9, 1814	250	660	13,781
War of 1812.....	June 18, 1812	Feb. 17, 1815	85,000	471,622	556,622
Seminole Indian war.....	Nov. 20, 1817	Oct. 21, 1818	1,000	6,911	7,911
Seminole Hawk Indian war.....	April 21, 1831	Sept. 31, 1832	1,339	5,126	6,465
Cherokee disturbance.....	April 1836	1837	.....	.....	9,494
Cherokee Indian war.....	May 5, 1836	Sept. 30, 1837	935	12,483	13,418
Florida Indian war.....	Dec. 23, 1835	Aug. 14, 1843	11,169	20,953	41,122
Apaches disturbance.....	Dec. 1838	1839	.....	.....	1,500
War with Mexico.....	April 24, 1846	July 4, 1848	30,954	73,776	104,730
Apaches, Navajo, and Utah war.....	1849	1855	4,500	1,001	2,381
Apaches Indian war.....	1854	1854	.....	.....	183
Comanche Indian war.....	1856	1856	.....	.....	2,687
Civil war.....	April 12, 1861	April 9, 1865	.....	.....	2,772,468
Spanish-American war.....	April 21, 1898	Aug. 12, 1898	.....	.....	124,717
Philippine Insurrection.....	1899	1900	.....	.....	60,000

• Naval forces engaged. † Actually engaged, about 60,000.

Total number of Union soldiers enlisted, 3,012,000; of Confederate soldiers enlisted, 600,000. Total on both sides, over 3,600,000. Total cost of the war, \$4,000,000,000 on the Union side, and \$2,400,000,000 on the Confederate.

number of casualties in the volunteer and regular of the United States, during the war of 1861-65, was
d by the Provost-Marshall General in 1866 :

d in battle, 67,058 ; died of wounds, 43,012 ; died of
, 199,720 ; died from other causes, 40,154 ; total de-
199,105.

ber of soldiers in the Confederate service, who died
nds or disease (partial statement), 133,821. Deserted
l statement), 104,428.

ber of United States troops captured during the war,
; Confederate troops captured, 476,169.

ber of United States troops paroled on the field, 16,-
onfederate troops paroled on the field, 248,599.

ber of United States troops who died while prisoners,
; Confederate troops who died while prisoners, 30,152.

casualties on the American side in the last war with
Britain, 1812-15, were : Killed, 1,877 ; wounded, 3,737 ;
, 614.

casualties on the American side in the war with
, 1846-48, were : Killed, 1,049 ; died of wounds, 904 ;
ed, 3,420.

estimated cost to the United States of the Revolution-
ar was \$135,193,703 ; of the war of 1812 with Great
, \$107,159,003 ; of the Mexican War, \$100,000,000 ; of
ril War (including all expenses growing out of the
\$6,189,929,909.

total American losses from all causes in the Spanish-
an War are 2,910. Of the total enlistment, 55,682
regulars, and 219,035 were volunteers. Of the latter,
were colored troops.

MEN CALLED BY PRESIDENT LINCOLN

The total number called for, under all calls made by the President, from April 15, 1861, to April 14, 1865, was 2,759,049.

Their terms of service under the calls were from three months to three years.

UNITED STATES SOLDIERS IN THE LATE CIVIL WAR

	Aggregate		Aggregate
New York.....	455,568	Connecticut.....	52,270
Pennsylvania.....	366,326	Maryland.....	49,730
Ohio.....	317,133	Vermont.....	35,256
Illinois.....	258,217	New Hampshire.....	34,605
Indiana.....	195,147	West Virginia.....	30,003
Massachusetts.....	151,785	Minnesota.....	25,034
Missouri.....	107,773	Rhode Island.....	23,711
Wisconsin.....	96,118	Kansas.....	20,097
Michigan.....	90,119	District of Columbia....	16,872
New Jersey.....	79,511	Delaware.....	13,651
Kentucky.....	78,540		
Iowa.....	75,860	Total.....	2,653,062
Maine.....	71,745		

THE NATION'S DEAD

The nation's dead are buried in seventy-nine national cemeteries, of which twelve are in the Northern States. Among the principal ones in the North are Cyrus Hill, Brooklyn, N. Y., with its 3,786 dead; Finn's Point, N. J., which contains the remains of 2,644 unknown dead; Gettysburg, Pa., with 1,967 known and 1,608 unknown dead; *Mound City, Ill.*, with 2,505 known and 2,721 unknown graves; *Philadelphia*, with 1,909, and Woodlawn, *Elmira*

N. Y., with 3,090. In the South, near the scenes of terrible conflicts, are located the largest depositories of the nation's heroic dead:

Arlington, Va., 16,264, of whom 4,349 are unknown.
 Beaufort, S. C., 9,241, of whom 4,493 are unknown.
 Chalmette, La., 12,511, of whom 5,674 are unknown.
 Chattanooga, Tenn., 12,962, of whom 4,963 are unknown.
 Fredericksburg, Va., 15,257, of whom 12,770 are unknown.
 Jefferson Barracks, Mo., 11,490, of whom 2,906 are unknown.

Little Rock, Ark., 5,602, of whom 2,337 are unknown.
 City Point, Va., 5,122, of whom 1,374 are unknown.
 Marietta, Ga., 10,151, of whom 2,963 are unknown.
 Memphis, Tenn., 13,997, of whom 8,817 are unknown.
 Nashville, Tenn., 16,526, of whom 4,701 are unknown.
 Popular Grove, Va., 6,199, of whom 4,001 are unknown.
 Richmond, Va., 6,542, of whom 5,700 are unknown.
 Salisbury, N. C., 12,126, of whom 12,032 are unknown.
 Stone River, Tenn., 5,602, of whom 288 are unknown.
 Vicksburg, Miss., 16,600, of whom 12,704 are unknown.
 Antietam, Va., 4,671, of whom 1,818 are unknown.
 Winchester, Va., 4,559, of whom 2,365 are unknown.

In all, the remains of 300,000 men who fought for the Stars and Stripes find guarded graves in our national cemeteries. Two cemeteries are mainly devoted to the brave men who perished in the loathsome prisons of the same name—Andersonville, Ga., which contains 13,714 graves, and Salisbury, with its 12,126 dead, of whom 12,032 are unknown.

National Colors.—The national colors of the United States were adopted by Congress in 1777.

MOST NORTHERN POINT REACHED BY ARCTIC EXPLORERS

Year	Explorers	N. Latitude
1607	Hudson.....	80° 23' 00"
1773	Phipps (Lord Musgrove).....	80° 48' 00"
1806	Scoresby.....	81° 12' 42"
1827	Parry.....	82° 45' 30"
1854	E. K. Kane.....	80° 10' 00"
1870	C. F. Hall.....	82° 11' 00"
1874	Meyer (on land).....	82° 00' 00"
1875	Markham (Nare's Expedition).....	83° 20' 26"
1876	Payer.....	83° 07' 00"
1882	A. W. Greeley.....	83° 24' 00"
1884	Lockwood (Greeley's Party).....	83° 24' 00"
1891	Peary.....	81° 37' 00"
1895	Nansen.....	86° 15' 00"

The distance from the farthest point of polar discovery to the pole itself is about 260 miles. But this polar radius is covered by ice gorges and precipices of incredible difficulty, and frost is so severe that no instrument of human invention can measure its intensity, and it blisters the skin like extreme heat.

The greatest progress that has ever been made across these wildernesses of storm, of fury and desolation, was at the rate of six miles a day, the explorers often resting as many days as they had before traveled miles in a single day.

SALARIES OF UNITED STATES OFFICERS, PER ANNUM

PRESIDENT, VICE-PRESIDENT AND CABINET.—President, \$50,000; Vice-President, \$8,000; Cabinet Officers, \$8,000 each.

UNITED STATES SENATORS.—\$5,000, with mileage.

CONGRESS.—Members of Congress, \$5,000, with mileage.

SUPREME COURT.—Chief Justice, \$10,500; Associate Justices, \$10,000.

CIRCUIT COURTS.—Justices of Circuit Courts, \$6,000.

HEADS OF DEPARTMENTS

STATE DEPARTMENT. — Assistant Secretary, \$4,500; Second and Third Assistant Secretary, \$4,000; Chief Clerk, \$2,500.

TREASURY DEPARTMENT.—Assistant Secretary, \$4,500; Chief Clerk, \$3,000; Director of Mint, \$4,500; Superintendent Life-Saving Service, \$4,000; Naval Secretary Lighthouse Board, \$5,000; Chief of Bureau of Engraving and Printing, \$4,500; Supervising Architect, \$4,500; Superintendent Coast Survey, \$6,000; Comptroller of Treasury, \$5,500; Auditor for Treasury, War Department, Interior Department, Navy Department, Post Office Department, and State, each, \$4,000; Treasurer of United States, \$6,000; Assistant Treasurer, \$3,600; Register Treasury, \$4,000; Comptroller of Currency, \$5,000; Commissioner Internal Revenue, \$6,000; Superintendent Immigration, \$4,000.

WAR DEPARTMENT.—Assistant Secretary, \$4,500; Adjutant General, \$5,500; Commissary General, \$5,500; Surgeon General, \$5,500; Judge Advocate General, \$5,500; Inspector General, \$5,500; Quartermaster-General, \$5,500; Paymaster-General, \$5,500; Chief of Engineers, \$5,500; Chief of Ordnance, \$5,500; Chief Signal Officer, \$5,500; Chief Pension Officer, \$5,500.

NAVY DEPARTMENT.—Assistant-Secretary, \$4,500; Chief of Yards and Docks, \$5,500; Chief of Ordnance, \$5,500; Chief of Supplies and Accounts, \$5,500; Chiefs of Medicine,

Equipment, Construction, and Navigation, each, \$5,500; Engineer-in-Chief, \$5,500; Inspector Pay Corps, \$4,400; President Naval Examining Board, \$6,375; President Naval Retiring Board, \$4,675; Superintendent Naval Observatory, \$2,975; Director Nautical Almanac, \$4,200; Hydrographer, \$2,975; Marine Corps, \$5,500.

POST-OFFICE DEPARTMENT.—First, Second, Third, and Fourth Assistant-Postmasters-General, each, \$4,000; Superintendent of Foreign Mails and of Money-Order Department, each, \$3,000; General Superintendent Railway Mail Service, \$3,500; Superintendent Dead-Letter Office, \$2,500; Chief Post-Office Inspector, \$3,000.

INTERIOR DEPARTMENT.—The salary is \$5,000, each, for the Assistant-Attorney-General, Commissioner of Land Office, of Pensions, of Patents, and Director of Geological Surveys; \$4,500, each, for Commissioner of Railroads, and First Assistant-Secretary of the Interior Department; \$4,000 for Second Assistant-Secretary, and Commissioner of Indian Affairs; First and Second Deputy Commissioners of Pensions, each, \$3,600; Assistant-Commissioner of Land Office, \$3,500; Commissioners of Education and of Pensions and Assistant-Commissioners of Indian Affairs and of Patents, each, \$3,000.

DEPARTMENT OF JUSTICE.—Solicitor-General, \$7,000; four Assistant-Attorneys-General, each, \$5,000; Solicitors Treasury and of Internal Revenue, each, \$4,500; Assistant-Attorney-General, Post Office Department, \$4,000; General Agent, \$4,000; Solicitor State Department, \$3,500.

DEPARTMENT OF AGRICULTURE.—Assistant-Secretary, \$4,500; Chief of Weather Bureau, \$4,500; Chief Bureau of Animal Industry, \$4,000; Director Experimental Stations, \$3,000; Statistician, \$3,000.

INTERSTATE COMMERCE COMMISSION. — Five members, each, \$7,500; Secretary, \$3,500.

Commissioner of Labor, \$5,000; Government Printer, \$4,500; Librarian of Congress, \$4,000; three Civil Service Commissioners, each, \$3,500; Chief Examiner Civil Service, \$3,000.

DIPLOMATIC APPOINTMENTS.—*Ministers Plenipotentiary*, at \$17,500: France, Great Britain, Germany, Mexico and Russia; at \$12,000: Austria-Hungary, Brazil, China, Italy and Spain; at \$10,000: Argentine Republic, Guatemala, Chili, Nicaragua, Peru and Turkey; at \$7,500: Belgium, Denmark, Hawaii, Netherlands, Paraguay and Uruguay, Sweden and Norway, Venezuela; at \$5,000: Bolivia and Switzerland. *Ministers Resident* at \$7,500: Corea; at \$5,000: Hayti, Liberia, Persia, Portugal, Siam. Then four Consuls-General at \$6,000, three at \$5,000, six at \$4,000, and eight at \$3,500 to \$2,000; also 72 Consuls at \$1,000 up to \$3,500.

ARMY OFFICERS.—General, \$13,500; Lieutenant-General, \$11,000; Major-General, \$7,500; Brigadier-General, \$5,500; Colonel, \$3,500; Lieutenant-Colonel, \$3,000; Major, \$2,500; Captain, mounted, \$2,000; Captain, not mounted, \$1,800; Regimental Adjutant, \$1,800; Regimental Quartermaster, \$1,800; First Lieutenant, mounted, \$1,600; First Lieutenant, not mounted, \$1,500; Second Lieutenant, mounted, \$1,500; Second Lieutenant, not mounted, \$1,400; Chaplain, \$1,500.

NAVY OFFICERS.—Admiral, \$13,000; Vice-Admiral, \$9,000; Rear-Admirals, \$6,000; Commodores, \$5,000; Captains, \$4,500; Commanders, \$3,500; Lieutenant-Commanders, \$2,800; Lieutenants, \$2,400; Masters, \$1,800; Ensigns, \$1,200; Midshipmen, \$1,000; Cadet Midshipmen, \$500;

Mates, \$900 ; Medical and Pay Directors and Medical and Pay Inspectors and Chief Engineers, \$4,400 ; Fleet Surgeons, Fleet Paymasters, and Fleet Engineers, \$4,400 ; Surgeons and Paymasters, \$2,800 ; Chaplains, \$2,500.

WHEN THINGS FIRST OCCURRED

- 1224, Franciscans arrived in England.
- 1300, Glass mirrors first made at Venice.
- 1460, Almanacs first printed by George von Furbach.
- 1464, Post-offices first established.
- 1473, Printed musical notes first used.
- 1477, Watches first made at Nuremburg.
- 1488, Hebrew Bible printed entire.
- 1492, America discovered by Columbus.
- 1493, Printing press set up at Copenhagen.
- 1501, First coach brought to Scotland when Queen Mary came from France. It belonged to Alexander, Lord Seaton.
- 1527, Wood engraving invented by Dürer.
- 1530, Spinning wheel invented by Jergens.
- 1545, Needles of modern type first used.
- 1549, Christianity introduced into Japan.
- 1549, Prayer-book of Edward VI. authorized by Parliament on Whit-Sunday.
- 1559, Knives first used in England.
- 1562, Religious liberty granted to the Huguenots in France.
- 1569, Coaches first used in England.
- 1572, Massacre of St. Bartholomew.
- 1573, *Don Quixote* written by Cervantes.
- 1588, Newspaper first published in England.

- 1590, Telescopes invented.
- 1608, Telescope first used in England.
- 1629, Printing press first introduced into the United States.
- 1650, Air-pump invented.
- 1652, Newspaper advertisement first appeared.
- 1687, Cent, of copper, first coined in New Haven.
- 1702, Daily newspaper first appeared.
- 1750, Shoe-blackening came into use.
- 1753, Steam-engine brought here from England.
- 1776, Union flag first unfurled over the camp at Cambridge, January 1. It retained the English cross in one corner.
- 1780, Glass factory first built in the United States.
- 1783, Balloon ascension first made.
- 1790, Newspaper first printed in the United States at Boston, September 25.
- 1807, Steamboat plied first on the Hudson.
- 1808, Temperance Society first organized in this country in Saratoga County, N. Y.
- 1812, Pins, first attempt at manufacture in this country.
- 1819, Sawmaker's anvil first brought to America.
- 1820, Locomotive first used in this country.
- 1826, Kerosene first used for lighting purposes.
- 1826, Horse railroad first built.
- 1827, Homeopathy introduced into England.
- 1829, Lucifer matches first made.
- 1830, Iron steamship first built.
- 1830, Steel pens first made.
- 1830, *Omnibuses* introduced in New York.
- 1830, Percussion caps first used by the U. S. army.

- 1834, Reaping machine patented by McCormick.
- 1835, Telegraph line successfully operated by Professor Morse. Its commercial utility demonstrated in 1842.
- 1835, Revolver patented by Colt.
- 1836, Screw propeller introduced by John Ericsson.
- 1837, Copper bottoms first applied to ships.
- 1839, Envelopes first used.
- 1844, Anesthesia discovered.
- 1846, Sewing machine patented by Elias Howe.
- 1848, Gold discovered in California.
- 1877, Telephone patented by Professor Bell.

XXI. TIME

DIVISIONS OF TIME

The Sidereal Day is the interval between two consecutive transits of a fixed star over any meridian, or the interval during which the earth makes one absolute revolution on its axis.

An Apparent Solar Day is the interval between two consecutive transits of the sun over any meridian. Its length varies from day to day.

A Mean Solar Day is the average of all the apparent solar days in the year. The sidereal and mean solar days are both invariable.

The Sidereal Year is the interval during which the earth makes one absolute revolution around the sun, and consists of 365 days, 6 hours, 9 minutes, 9.6 seconds, and is invariable.

The Tropical Year is the interval between two consecutive

returns of the sun to the Vernal Equinox. The tropical year consists of 365 days, 5 hours, 48 minutes, 46 seconds, and is variable.

Julius Caesar, in 45 B. C., reformed the Calendar, making the average length of the Julian year $365\frac{1}{4}$ days. This constitutes an error of about 3 days in 400 years. He also made the year to begin on the first of January instead of March, and named the fifth month (Quintilis) of the old year July in honor of himself.

The Gregorian Year, introduced by Pope Gregory XIII., consists of 365 days, adding one day every fourth year. A year of 366 days is called leap year. The centurial years must be divisible by 400 in order to be leap years. The year 1900, though divisible by 4, is not divisible by 400, and is therefore not a leap year. The error in the Gregorian system amounts to only one day in 20 centuries. The length of the mean Gregorian year is 365 days, 5 hours, 49 minutes, 12 seconds. The Gregorian calendar was introduced into England and her colonies in 1752. September 3d of that year was changed to September 14th. The commencement of the legal year was at the same time changed from March 25th to January 1st, so that the year 1751 lost the months of January, February, and the first 24 days of March. The difference between the Julian and Gregorian calendar is now 12 days. The Julian calendar is still employed by Russia and the Greek church for civil and ecclesiastical purposes.

STANDARD TIME

The inconvenience growing out of the great differences of *local time* prompted the leading railroad companies to take *measures regulating the running of trains*. Accordingly in

1883, by mutual agreement, it was decided to divide the country, extending from 65 degrees to 125 degrees west longitude, into four time sections, each of 15 degrees, corresponding to one hour of time. The first or Eastern section includes all the territory between the Atlantic coast and an irregular line drawn from Detroit to Charleston, S. C., the latter being its most southern point. The second, known as the Central section, includes all the territory between the last named line and an irregular line drawn from Bismarck, N. D., to the mouth of the Rio Grande. The ~~third~~, known as the Mountain section, includes all the territory from the last named line to the western borders of Idaho, Utah, and Arizona. The fourth, known as the Pacific section, covers the rest of the country to the Pacific coast. Standard time is uniform within each of these sections, but the time of one section differs from that of the next to it by exactly an hour. Thus, at 12 noon at New York City, Eastern time, it is 11 o'clock in Chicago, Central time, 10 o'clock at Denver, Mountain time, and nine o'clock at San Francisco, Pacific time.

TIME ON SHIPBOARD

For the convenience of sea-faring men time is divided into periods called bells. The first bell is 12.30 A. M. ; 2 bells, 1 o'clock ; 3 bells, 1.30 ; 4 bells, 2 ; 5 bells, 2.30 ; 6 bells, 3 ; 7 bells, 3.30 ; 8 bells, 4 A. M. It will be observed therefore that the time between bells is a half hour, and that the highest number of bells is 8. The four hours covered by the 8 bells are repeated six times in 24 hours. The first bell in the second period coming at 4.30 A. M. ; the next period,

8.30; the next period at 12.30 P. M.; the next period at 4.30; and the last period at 8.30. The crew is mustered in two divisions, the starboard watch and the port watch. The day commences at noon. The afternoon watch continues from noon to 4 P. M.; the first dog watch from 4 P. M. to 6 P. M.; second dog watch from 6 P. M. to 8 P. M.; first watch from 8 P. M. to midnight; middle watch, 12 to 4 A. M.; morning watch, 4 to 8 A. M.; forenoon watch, 8 A. M. to noon. This makes seven watches which enables the crew to keep them alternately, as the watch which goes on duty at noon one day has the afternoon next day, and the men who have only four hours' rest one night have eight hours the next.

TABLE SHOWING THE NUMBER OF DAYS FROM ANY DAY IN ONE MONTH TO THE SAME DAY IN ANOTHER

FROM	To	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
January.....		365	31	59	90	120	151	181	212	243	273	304	334
February.....		334	365	28	59	89	120	150	181	212	242	273	303
March.....		306	337	365	31	61	92	122	153	184	214	245	275
April.....		275	306	334	365	30	61	91	122	153	183	214	244
May.....		245	276	304	335	365	31	61	92	123	153	184	214
June.....		214	245	273	304	334	365	30	61	92	122	153	183
July.....		184	215	243	274	304	335	365	31	62	92	123	153
August.....		153	184	212	243	273	304	334	365	31	61	92	122
September.....		122	153	181	212	242	273	303	334	365	30	61	91
October.....		92	123	151	182	212	243	273	304	335	365	11	61
November.....		61	92	120	151	181	212	242	273	304	334	365	30
December.....		31	62	90	121	151	182	212	243	274	304	335	365

EXPLANATION.—To find the number of days from January 20 to Dec. 20, follow the horizontal line opposite January until you reach the column headed by December, when you will find 334, representing the required number of days, and so on with the other months. During leap year, if February enters into the calculation add one day to the result.

READY REFERENCE CALENDAR FOR ASCERTAINING THE DAY OF THE WEEK FOR ANY GIVEN TIME FROM THE BEGINNING OF THE CHRISTIAN ERA TO THE YEAR 2200

TABLE OF CENTURIES												TABLE OF YEARS											
G	F	E	D	C	B	A	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	
A	G	F	E	D	C	B	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
B	A	G	F	E	D	C	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
C	B	A	G	F	E	D	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	
D	C	B	A	G	F	E	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	
E	D	C	B	A	G	F	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	

Figures below for the Gregorian New Style. Refer to the letters above.

15	16	17	18
19	20	21	22

Figures below for the Julian Old Style. Refer to the letters above.

1	2	3	4
5	6	7	8
9	10	11	12

DIRECTIONS.—1. In the Table of Centuries find the first two figures of the year desired, and in the Table of Years find the last two figures of that year. The letter at the intersection of the columns of the two tables is the *Year Letter*. 2. Under the Year Letter in the Table of Months find the *Key Figure* opposite the month desired. 3. The day of the week desired can then be found in the Table of Days at the intersection of the columns of the Key Figure and the day of the month.

EXAMPLE.—To find the day of the week on which July 4, 1901, falls: Find 19 in the Table of Centuries and 01 in the Table of Years. The Year Letter at the intersection of their columns is A. In the Table of Months the key figure at the intersection of the A and July columns is 2. In the Table of Days the day of the week at the intersection of the key figure 2 and day of the month 4 (th) column is Thursday.

TABLE OF MONTHS

Figure

TABLE OF DAYS

Leap Year	A	B	C	D	E	F	G	1	Sun.	Mon.	Tue	Wed.	Thu.	Fri.	Sat.
Jan.	2	3	4	5	6	7	1	2	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
Feb.	5	6	7	1	2	3	4	3	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Mon.
Jan.	3	4	5	6	7	1	2	4	Wed.	Thu.	Fri.	Sat.	Sun.	Mon.	Tue.
Feb.	6	7	1	2	3	4	5	5	Thu.	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.
Mar.	6	7	1	2	3	4	5	6	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.	Thu.
Apr.	2	3	4	5	6	7	1	7	Sat.	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.
May	4	5	6	7	1	2	3		1	2	3	4	5	6	7
June	7	1	2	3	4	5	6		8	9	10	11	12	13	14
July	3	4	5	6	7	1	2		15	16	17	18	19	20	21
Aug.	5	6	7	1	2	3	4		22	23	24	25	26	27	28
Sept.	1	2	3	4	5	6	7		29	30	31				
Oct.	3	4	5	6	7	1	2								
Nov.	6		1	2	3	4	5								
Dec.	1	2	3	4	5	6	7								

LEAP YEARS.—For Leap Years use January and February at the top of the Table of Months opposite the words "Leap Year." In the Table of Years leap years are underlined. Years ending in 00 in Old Style dates are leap years; in New Style dates only when the Year Letter is "B".

LEAP YEARS.—For Leap Years see January and February at the top of the Table of Months opposite the words "Leap Year." In the Table of Years leap years are underlined. Years ending in 00 in Old Style dates are leap years; in New Style dates only when the Year Letter is F.

LEGAL HOLIDAYS

Congress has at various times appointed special holidays, but we have no national holiday, not even the Fourth of July. The proclamation of the President designating a day of Thanksgiving makes it a legal holiday only in those States which provide for it by law.

January 1. New Year's Day :—In all the States except Massachusetts, Mississippi, and New Hampshire.

January 8. Anniversary of the Battle of New Orleans :—In Louisiana.

January 19. Lee's Birthday :—In Florida, Georgia, North Carolina, South Carolina, and Virginia.

February 12. Lincoln's Birthday :—In Connecticut, Illinois, Minnesota, New Jersey, New York, North Dakota, Pennsylvania, and Washington.

February 22. Washington's Birthday :—In all the States except Mississippi.

March 2. Anniversary of Texan Independence :—In Texas.

April 19. Patriot's Day :—In Massachusetts.

April 21. Anniversary of the Battle of San Jacinto :—In Texas.

May 20. Anniversary of the Signing of the Mecklenburg Declaration of Independence :—In North Carolina.

May 30. Decoration Day :—In all the States and Territories, except Alabama, Arkansas, Florida, Georgia, Idaho, Louisiana, Mississippi, North Carolina, South Carolina, Texas, and Virginia. In New Mexico, only when designated by the Governor.

June 3. Jefferson Davis's Birthday :—In Florida and Georgia.

July 4. Independence Day :—By common consent observed in all the States and Territories.

July 24. Pioneer's Day :—In Utah.

August 16. Bennington Battle Day :—In Vermont.

September 9. Admission Day :—In California.

November 1. All Saints' Day :—In Louisiana.

November. Thanksgiving Day :—Usually the 4th Thursday (sometimes the 5th), as the President may appoint. It is observed in all the States, but in some it is not a statutory holiday.

December 25. Christmas Day :—In all the States.

Arbor Day.—This is a legal holiday in Arizona, Minnesota, North Dakota, Wisconsin, and Wyoming, the day being set by the Governor ; in Texas, February 22 ; in Nebraska, April 22 ; Montana, May 8 ; Utah, April 15 ; Rhode Island, May 11 ; Florida, first Friday in February ; Georgia, first Friday in December ; in Colorado it is observed only as a school holiday, third Friday in April, and also in Idaho on the first Friday after May 1.

Confederate Memorial Day.—A legal holiday in Louisiana, April 6 ; in Alabama, Florida, and Georgia, April 26 ; in North Carolina and South Carolina, May 10 ; in Tennessee, second Friday in May.

Election Days.—Spring Election Day in Pennsylvania, third Tuesday in February ; State Election Day in Rhode Island, April 4, 1900 ; State Election Day in North Carolina, August 2, 1900 ; General Election Day in Arizona, California, Colorado, Idaho, Indiana, Iowa, Kansas, Kentucky,

Louisiana, Maryland, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, West Virginia, Washington, Wisconsin, and Wyoming, in November in the year when general elections are held.

Good Friday.—A legal holiday in all States that designate it.

Labor Day.—A legal holiday in all the States and Territories except Arizona, Arkansas, Louisiana, Mississippi, Nevada, North Carolina, North Dakota, Oklahoma, and Montana. It is observed in Wyoming, but not as a legal day. The date of its observance varies. In the parish of Orleans, Louisiana, it is observed November 25; in North Carolina, September 6, 1900; and in the other States and Territories September 3, 1900. In New Mexico only when so appointed by the Governor.

Mardi-Gras.—In Alabama and parish of Orleans, Louisiana, February 27, 1900.

Saturdays.—Every Saturday after 12 o'clock noon a legal holiday in New York, New Jersey, North Carolina, Pennsylvania, Maryland, Tennessee, Virginia, and in Castle County, Delaware (except St. George's Hundred in the cities of Louisiana and Missouri having a population of 100,000 or more; in the cities of Ohio with 50,000 or more inhabitants; and in Denver, Colorado, from June 1 to August 31. In Maine and Connecticut, banks close at noon on Saturdays.

Sundays.—Sundays and Fast Days are legal holidays in all the States that so designate them.

HOW TO TELL ANY PERSON'S AGE

Hand this table to a young lady, and request her to tell you in which column or columns her age is found. Add together the figures at the top of the columns in which her age is found, and you have the great secret. Thus, suppose her age to be 17, you will find that number in the first and fifth columns; add the first figures of these two columns. Here is the magic table :

1	2	4	8	16	32
3	3	5	9	17	33
5	6	6	10	18	34
7	7	7	11	19	35
9	10	12	12	20	36
11	11	13	13	21	37
13	14	14	14	22	38
15	15	15	15	23	39
17	18	20	24	24	40
19	19	21	25	25	41
21	22	22	26	26	42
23	23	23	27	27	43
25	26	28	28	28	44
27	27	29	29	29	45
29	30	30	30	30	46
31	31	31	31	31	47
33	34	36	40	48	48
35	35	37	41	49	49
37	38	38	42	50	50
39	39	39	43	51	51
41	42	44	44	52	52
43	43	45	45	53	53
45	46	46	46	54	54
47	47	47	47	55	55
49	50	52	56	56	56
51	51	53	57	57	57
53	54	54	58	58	58
55	55	55	59	59	59
57	58	60	60	60	60
59	59	61	61	61	61
61	62	62	62	62	62
63	63	63	63	63	63

ABLE SHOWING THE TIME OF DAY IN VARIOUS PARTS OF
THE WORLD WHEN IT IS NOON AT WASHINGTON, D. C.

Ibany, N. Y.	12.13 p.m.	Lisbon, Portugal	4.31 p.m.
Amsterdam, Holland	2.58 p.m.	Lincoln, Neb.	10.41 a.m.
Angra, India	3.19 p.m.	Little Rock, Ark.	10.50 a.m.
Atchison, Kas.	10.47 a.m.	London, England	5.08 p.m.
Athens, Greece	6.43 p.m.	Louisville, Ky.	11.26 a.m.
Atlanta, Ga.	11.40 a.m.	Macon, Ga.	11.37 a.m.
Augusta, Ga.	12.29 p.m.	Melbourne, Aus.	2.48 a.m.
Baltimore, Md.	12.02 p.m.	Memphis, Tenn.	11.08 a.m.
Bath, Me.	12.29 p.m.	Meridian, Miss.	11.14 a.m.
Berlin, Germany	6.02 p.m.	Mexico, Mex.	10.32 a.m.
Bombay, India	10.00 p.m.	Milwaukee, Wis.	11.16 a.m.
Boston, Mass.	12.24 p.m.	Minneapolis, Minn.	10.55 a.m.
Brussels, Belgium	5.25 p.m.	Mobile, Ala.	11.16 a.m.
Buffalo, N. Y.	11.52 a.m.	Monoton, N. B.	12.48 p.m.
Cape Town, Africa	6.22 p.m.	Montreal, Canada	12.14 p.m.
Cairo, Egypt	7.13 p.m.	Moscow, Russia	7.38 p.m.
Calcutta, India	11.01 p.m.	Nashville, Tenn.	11.21 a.m.
Canton, China	12.41 a.m.	New Orleans, La.	11.08 a.m.
Cambridge, Mass.	12.29 p.m.	New York, N. Y.	12.12 p.m.
Charleston, S. C.	11.43 a.m.	Omaha, Neb.	10.44 a.m.
Chicago, Ill.	11.17 a.m.	Ottawa, Canada	12.05 p.m.
Cincinnati, Ohio	11.30 a.m.	Panama, C. A.	11.50 a.m.
Cleveland, O.	11.41 a.m.	Paris, France	5.17 p.m.
Columbia, S. C.	11.44 a.m.	Pensacola, Fla.	11.19 a.m.
Constantinople, Turkey	7.04 p.m.	Philadelphia, Pa.	12.07 p.m.
Danville, Va.	11.50 a.m.	Pittsburg, Pa.	11.48 a.m.
Denver, Colo.	10.08 a.m.	Port Huron, Mich.	11.34 a.m.
Des Moines, Iowa	10.53 a.m.	Portland, Me.	12.27 p.m.
Detroit, Mich.	11.36 a.m.	Portland, Ore.	8.56 a.m.
Dubuque, Iowa	11.05 a.m.	Portsmouth, Va.	12.03 p.m.
Dublin, Ireland	4.43 p.m.	Providence, R. I.	12.22 p.m.
Edinburgh, Scotland	4.55 p.m.	Quebec, Canada	12.23 p.m.
Galveston, Texas	10.49 a.m.	Quincy, Ill.	11.07 a.m.
Halifax, N. S.	12.54 p.m.	Raleigh, N. C.	11.50 a.m.
Hamilton, Ont.	11.49 a.m.	Richmond, Va.	11.58 a.m.
Hannibal, Mo.	11.07 a.m.	Rio Janeiro, Brazil	2.15 p.m.
Hartford, Conn.	12.17 p.m.	Rome, Italy	5.58 p.m.
Havana, Cuba	11.38 a.m.	Rome, Ga.	11.32 a.m.
Houston, Texas	10.44 a.m.	San Francisco, Cal.	8.58 a.m.
Indianapolis, Ind.	11.24 a.m.	Salt Lake City, Utah	9.40 a.m.
Jacksonville, Ill.	11.07 a.m.	Savannah, Ga.	11.44 a.m.
Jefferson City, Mo.	10.50 a.m.	Selma, Ala.	11.20 a.m.
Kalama, Wash.	8.58 a.m.	Sioux City, Iowa	10.42 a.m.
Kansas City, Mo.	10.49 a.m.	St. John, N. B.	12.44 p.m.
Key West, Fla.	11.41 a.m.	St. John's, N. F.	1.37 p.m.
Knoxville, Tenn.	11.32 a.m.	St. Joseph, Mo.	10.50 a.m.
Laramie, Wyo.	10.12 a.m.	St. Louis, Mo.	11.07 a.m.
Leavenworth, Kas.	10.49 a.m.	St. Paul, Minn.	10.55 a.m.

TABLE SHOWING THE TIME OF DAY IN VARIOUS PARTS OF
THE WORLD WHEN IT IS NOON AT WASHINGTON—*Cont'd.*

Terr Haute, Ind.....	11.18 a.m.	Virginia City, Nev.,.....	9.40 a.m.
Toronto, Canada.....	11.51 a.m.	Wheeling, W. Va.....	11.45 a.m.
Vera Cruz, Mex.....	10.43 a.m.	Wilmington, N. C.....	11.58 a.m.
Vicksburg, Miss.....	11.05 a.m.	Yankton, S. D.....	10.38 a.m.

XXII. MEASURES

METRIC SYSTEM

The Metric System has been adopted by all the countries of Europe, except Russia and Great Britain, in both of which it is permissible. It has also been adopted by Mexico and the South American Republics, but in many of them the old Spanish weights and measures are also used. It was legalized in the United States by enactment of Congress, July 28, 1866, and is used chiefly in the course of trade with foreign countries.

The Meter, is the unit of length, and constitutes the basis of the system. It is nearly equal to the ten-millionth part of a quarter of a meridian, the distance from the equator to the pole. Its length is defined by the distance between two lines drawn on a platinum-iridium bar at zero Centigrade. This bar is deposited in the International Bureau of Weights and Measures, Paris. It is a trifle less than $1\frac{1}{4}$ English yards. The tables are based on the decimal system, the higher denominations being multiples of the meter, and the lower denominations fractional parts thereof.

Length.—The meter = 39.37 inches in length; the dekameter = 10 meters, or 393.7 inches, or 32 feet, 9.7 inches. The hectometer = 100 meters = 328ft. 1 inch. The kilometer = 1000 meters = 3280 feet, 10 inches. The myriameter = 10,000 meters = 6.2137 miles.

The decimeter = $\frac{1}{10}$ of a meter = 3.937 inches. The centimeter = $\frac{1}{100}$ of a meter = 0.3937 inch. The millimeter = $\frac{1}{1000}$ of a meter = 0.0394 inch.

Surface.—The centare = 1 square meter = 1550 square inches. The are = 100 square meters = 119.6 square yards. The hectare = 10,000 square meters = 2.471 acres.

Capacity—Cubic Measure.—The liter = 1 cubic decimeter. The dekaliter = 10 liters = 10 cubic decimeters. The hectoliter = 100 liters = $\frac{1}{10}$ of a cubic meter. The kiloliter, or stere, = 1000 litres = 1 cubic meter = 35.315 feet.

The deciliter = $\frac{1}{10}$ of a liter = $\frac{1}{10}$ of a cubic decimeter. The centiliter = $\frac{1}{100}$ of a liter = 10 cubic centimeters. The milliliter = $\frac{1}{1000}$ of a liter = 1 cubic centimeter.

Capacity—Dry Measure.—The liter = 0.908 quart. The dekaliter = 9.08 quarts. The hectoliter = 2 bushels and 3.35 pecks. The kiloliter = 1.308 cubic yards.

The deciliter = 6.1022 cubic inches. The centiliter = 0.6102 cubic inch. The milliliter = 0.061 cubic inch.

Capacity—Liquid or Wine Measure.—The liter = 1.0567 quarts. The dekaliter = 2.6417 gallons. The hektoliter = 26.417 gallons. The kiloliter = 264.17 gallons.

The deciliter = 0.845 gill. The centiliter = 0.338 fluid ounce. The milliliter = 0.27 fluid dram.

Weight.—The gram = 15.432 grains. The dekagram = 10 grams = 0.3527 ounce. The hectogram = 100 grams = 3.5274 ounces. The kilogram = 1000 grams = 2.2 pounds. The myriagram = 10,000 grams = 22.046 pounds. The quintal = 100,000 grams = 220.46 pounds. The *millier*, or *tonneau* = 1,000,000 grams = 2204.6 pounds, or nearly one ton.

The decigram = $\frac{1}{10}$ of a gram = 1.5432 grains. The centigram = $\frac{1}{100}$ of a gram = 0.1543 grain. The milligram = $\frac{1}{1000}$ of a gram = 0.0154 grain.

Metric Equivalents.—One inch, linear, = 25.40 millimeters; 1 foot = 30.48 centimeters; 1 yard = .9144 meter; 1 mile = 1.609 kilometers.

One inch square = 6.452 sq. centimeters; 1 sq. foot = 0.0929 sq. meter; 1 sq. yard = 0.8361 sq. meter; 1 acre = 0.4047 hectare.

One cubic inch = 16.39 cubic centimeters; 1 cu. foot = 0.0283 cu. meter; 1 cu. yard = 0.7645 cu. meter.

One pint = 0.4732 liter; 1 quart (liquid) = 0.9464 liter; 1 quart (dry) = 1.101 liters; 1 gallon = 3.785 liters; 1 peck = 8.809 liters; 1 bushel = 35.242 liters.

One grain = 0.0648 grams; 1 ounce (Troy) = 31.10 grams; 1 ounce (avoir.) = 28.3495 grams; 1 pound = 0.4536 kilos; 1 ton (2000 lbs.) = 0.9072 metric ton; 1 ton (2240 lbs.) = 1.0161 metric tons.

MEASURES AND EQUIVALENTS

- 1 teaspoonful = 60 drops = $\frac{1}{8}$ ounce.
- 2 teaspoonfuls = 1 desert-spoonful = $\frac{1}{4}$ ounce.
- 2 desert-spoonfuls = 1 tablespoonful = $\frac{1}{2}$ ounce.
- 8 tablespoonfuls = 1 gill = 4 ounces.
- 32 tablespoonfuls = 1 pint = 1 pound of water.
- 1 quart of wheat flour = 1 pound = 16 ounces.
- 1 quart of Indian meal = 18 ounces.
- 1 pint of butter (melted) = 16 ounces = 1 pound.
- 1 quart of loaf sugar = 1 pound.
- 1 quart of powdered sugar = 28 ounces = $1\frac{1}{4}$ pounds.

4 tablespoonfuls = 1 wine (sherry) glass = $\frac{1}{2}$ gill.

2 wine glasses = 1 claret glass.

1 tea cup holds from 1 to 2 gills.

1 common tumbler holds 2 gills = $\frac{1}{2}$ pint.

1 heaped tablespoonful of salt = 1 ounce.

WEIGHTS AND THEIR EQUIVALENTS

1 pound of flour = 1 quart.

1 pound of granulated sugar = 2 cups.

1 pound of pulverized sugar = 2 heaping cups.

1 pound butter = 2 cups.

1 pound of chopped meat = 1 pint.

10 eggs average 1 pound.

1 full pint of milk = 1 pound.

1 teaspoonful of soda and 2 of cream tartar = three teaspoonfuls of baking powder.

A cupful of sour milk requires a level teaspoonful of soda.

2 ordinary sized cupfuls = one pint.

MILES OF VARIOUS NATIONS

The English and American mile is.....	1,760	yard
The Scotch mile is.....	1,984	"
The Irish mile is.....	2,240	"
The Dutch mile is.....	1,094	"
The Prussian mile is.....	8,238	"
The Italian mile is.....	2,025	"
The Austrian mile is.....	8,297	"
The Swiss mile is.....	8,548	"
The Swedish mile is.....	11,660	"
The Spanish mile is.....	1,522	"
The Roman mile is.....	1,614	"
The Hungarian mile is.....	4,139	"
The Norwegian mile is.....	12,182	"
The Turkish mile is.....	1,826	"
The Polish mile is.....	8,160	"
The Nautical and Geographical mile is.....	2,025	"

CARRYING CAPACITY OF A TEN TON FREIGHT CAR

Flour.....	90 barrels.	Butter.....	30,000 pounds.
Lime.....	70 "	Lumber.....	6,000 feet.
Salt.....	70 "	Wheat.....	340 bushels.
Whisky.....	60 "	Barley.....	300 "
Flour.....	200 sacks.	Apples.....	370 "
Eggs.....	130 to 160 barrels.	Corn.....	400 "
Wood.....	6 cords.	Potatoes.....	430 "
Sheep.....	80 to 100 head.	Bran.....	1,000 "
Hogs.....	50 to 60 "	Oats.....	680 "
Cattle.....	18 to 20 "	Flax Seed.....	360 "

TIME AT WHICH MONEY DOUBLES AT INTEREST

Rate per cent	Simple Interest	Compound Interest
10.....	10 years.....	7 years 100 days.
9.....	11 years 40 days.....	8 years 16 days.
8.....	12½ years.....	9 years 2 days.
7.....	14 years 104 days.....	10 years 80 days.
6.....	16 years 8 months.....	11 years 327 days.
5.....	20 years.....	15 years 75 days.
4½.....	22 years 81 days.....	15 years 273 days.
4.....	25 years.....	17 years 246 days.
3½.....	28 years 208 days.....	20 years 54 days.
3.....	33 years 4 months.....	23 years 164 days.
2½.....	40 years.....	28 years 26 days.
2.....	50 years.....	35 years 1 day.

ONE DOLLAR LOANED 100 YEARS at Compound Interest would amount to the following sum:

24 per cent.....	\$2,351,799,404.00	10 per cent.....	\$13,809.00
18 ".....	15,145,207.00	6 ".....	340.00
15 ".....	1,174,405.00	3 ".....	19.25
12 ".....	84,675.00	1 ".....	2.79

DIMENSIONS OF ONE ACRE

A square, whose sides are 12.649 rods, or 69.57 yards, or 208.71 feet long, contains one acre. Table of dimensions of rectangle containing one acre:

RODS

1 x 160	1½ x 106⅔	2 x 80	2½ x 64
3 x 53⅓	3½ x 45 5-7	4 x 40	4½ x 35 5-9
5 x 32	5½ x 29 1-11	6 x 26⅔	6½ x 24 8-13
7 x 22 6-7	7½ x 21⅓	8 x 20	8½ x 18 14-17
9 x 17 7-8	9½ x 16 16-19	10 x 16	10½ x 15 5-21
11 x 14 6-11	11½ x 13 21-33	12 x 13⅓	12½ x 12 4-5
		12 13-20 x 12 13-20	

HOW TO MEASURE CORN IN CRIB, HAY IN A MOW, ETC.

This rule will apply to a crib of any kind. Two cubic feet of sound, dry corn in the ear will make a bushel shelled. To get the quantity of shelled corn in a crib of corn in the ear, measure the length, breadth, and height of the crib, inside of the rail ; multiply the length by the breadth, and the product by the height ; then divide the product by two, and the result is the number of bushels in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together, and this product by 8, and point off one figure in the product for decimals.

To find the amount of hay in a mow, allow 512 cubic feet for a ton, and it will come out very near correct.

SHRINKAGE

Wheat from the time it is threshed, will shrink two quarts to the bushel or six per cent in six months, under most favorable circumstances. Hence, it follows that ninety-four cents a bushel for wheat when first threshed in August, is as good, taking into account the shrinkage alone, as one dollar in the following February.

Corn shrinks much more from the time it is first husked. One hundred bushels of ears, as they come from the field in November, will be reduced to not far from eighty. So that forty cents a bushel for corn in the ear, as it comes from the field, is as good as fifty in March, shrinkage only being *taken into the account.*

In the case of potatoes—taking those that rot and are

otherwise lost—together with the shrinkage, there is but little doubt that between October and June, the loss to the owner who holds them is not less than thirty-three per cent.

This estimate is taken on the basis of interest at 7 per cent, and takes no account of loss by vermin.

WHEN WHEAT MAY BE HARVESTED

Wheat is harvested in January in Australia, New Zealand, Chile, Argentine Republic ; in February and March in Upper Egypt and India ; in April in Lower Egypt, India, Syria, Cyprus, Persia, Asia Minor, Mexico, Cuba ; in May in Texas, Algeria, Central Asia, China, Japan, Morocco ; In June in California, Oregon, Mississippi, Alabama, Georgia, North Carolina, South Carolina, Tennessee, Virginia, Kentucky, Kansas, Arkansas, Utah, Colorado, Missouri, Turkey, Greece, Italy, Spain, Portugal, South of France ; in July in New England, New York, Pennsylvania, Ohio, Indiana, Michigan, Illinois, Iowa, Wisconsin, Southern Minnesota, Nebraska, Upper Canada, Roumania, Bulgaria, Austria, Hungary, South of Russia, Germany, Switzerland, South of England ; in August in Central and Northern Minnesota, the Dakotas, Manitoba, Lower Canada, Colombia, Belgium, Netherlands, Great Britain, Denmark, Poland, Central Russia ; in September and October in Scotland, Sweden, Norway, and North of Russia ; in November in Peru, South Africa ; in December in Burmah and New South Wales.

SOME REMARKABLE PRICES FOR WHEAT

The highest prices obtained for wheat in the Chicago market since 1860 are as follows :

In May, 1867, it reached \$2.85 per bushel ; in June, 1864

\$2.26; in July, 1868, \$2.20; in September, 1888, as a result of the Hutchinson "corner," it reached \$2.00. These are the only instances in which it reached or exceeded \$2.00. The lowest points touched within this period were \$0.48¾ in January, 1895; \$0.50 in September, 1894; \$0.53¾ in June, 1896; \$0.54¾ in July, 1893; \$0.55 in June and July, 1861. The most sudden changes in price were in 1888, when the price advanced from \$0.71¼, in April, to \$2.00 in September, but the following day dropped to \$1.45. Again in May, 1898, as a result of the Leiter "corner," the price reached \$1.85 and dropped to \$0.62½ in October of the same year.

VALUE OF DIAMONDS

Diamonds averaging one-half carat each, \$60 per carat.

Diamonds averaging three-quarters carat each, \$80 per carat.

Diamonds averaging one carat each, \$100 per carat.

Diamonds averaging one and one-quarter carats each, \$110 per carat.

Diamonds averaging one and one-half carats each, \$120 per carat.

Diamonds averaging one and three-quarters carats each, \$145 per carat.

Diamonds averaging two carats each, \$175 per carat.

The value of the gem increases in the geometrical ratio of its weight. Four diamonds weighing together two carats are worth \$120; but one diamond weighing just as much is worth \$350. Stones weighing over two carats are about the same price per carat as two-carat stones; they should be dearer, but they are not, simply because the demand for *them is limited*.

VALUES OF FOREIGN COINS (1899)

COUNTRY	STANDARD	MONETARY UNIT	VALUE IN U. S. GOLD	COINS
Argentina Re- public.....	Gold and Silver.	Peso.....	\$0.965	Gold—Argentine (\$4.82,4) and $\frac{1}{2}$ argen- tine. Silver—Peso and divisions.
Austria-Hungary.	Gold.....	Crown.....	.203	Gold—New system, 20 crowns (\$4.05,2) and 10 crowns (\$2.02,6). Old system— 4 florins (\$1.99,9), 8 florins (\$3.85,8), ducat (\$2.28,7), and 4 ducats (\$9.15,8). Silver—1 and 2 florins.
Belgium.....	Gold and silver.	Franc.....	.19,3	Gold—10 and 20 francs. Silver—5 francs.
Bolivia.....	Silver.....	Boliviano.....	.43,6	Silver—Boliviano and divisions.
Brazil.....	Gold.....	Milreis.....	.54,6	Gold—5, 10 and 20 milreis. Silver— $\frac{1}{2}$, 1 and 2 milreis.
Canada.....	Gold.....	Dollar.....	1.00	
Central American States*.....	Silver.....	Peso.....	.43,6	Silver—Peso and divisions.
Chili.....	Gold.....	Peso.....	.36,5	Gold—Escudo (\$1.82,5), doubloon (3. 65,1), condor (\$7.30). Silver—Peso and divisions.
China.....	Silver.....	Tael { Shanghai... Haikwan... Tientsin... Chefoo... }	.64,4 .71,8 .68,3 .67,4	
Colombia.....	Silver.....	Peso.....	.43,6	Gold—Condor (\$9.64,7) and double con- dor. Silver—Peso.
Costa Rica.....	Gold.....	Colon.....	.46,5	Gold—2, 5, 10 and 20 colons (\$9.30,7). Silver—5, 10, 25 and 50 centimes.
Cuba.....	Gold and silver.	Peso.....	.02,6	Gold—Doubloon (\$5.01,7). Silver—Peso.
Danmark.....	Gold.....	Crown.....	.26,8	Gold—10 and 20 crowns.
Ecuador.....	Silver.....	Sucre.....	.43,6	Gold—Condor (\$9.64,7) and double con- dor. Silver—Peso and divisions.

France.....	Gold and silver.	Franc.....	19.3	and 20 piastres.
German Empire.....	Gold.....	Mark.....	23.8	Gold—5, 10, 20, 50 and 100 frs. Silver—5 frs.
Great Britain.....	Gold.....	Pound sterling....	\$4.86, 65¢	Gold—5, 10 and 20 marks.
Greece.....	Gold and silver.	Drachma.....	19.3	Gold—Sovereign (£ sterling) and ½ sovereign, 20, 50 and 100 drachmas.
Haiti.....	Gold and silver.	Gourde.....	46.5	Gold—5, 10, 20, 50 and 100 drachmas.
India.....	Silver.....	Rupee.....	26.7	Silver—Gourde.
Italy.....	Gold and silver.	Lira.....	19.3	Gold—Mohur (\$7.10, 5). Silver—Rupee and divisions.
Japan.....	Gold.....	Yen.....	49.8	Gold—5, 10, 20, 50, 100 lire. Silver—5 lire.
Liberia.....	Gold.....	Dollar.....	1.00	Gold—1, 2, 5, 10 and 20 yen. Silver—10, 20 and 50 sen.
Mexico.....	Silver.....	Dollar.....	47.4	Gold—Dollar (\$6.98, 3), 2½, 5, 10, 20 dollars. Silver—D dollar (or peso) and divisions.
Netherlands.....	Gold and silver.	Florin.....	40.2	Gold—10 florins. Silver—½, 1, 2½ florins.
Newfoundland.....	Gold.....	Dollar.....	1.01, 4	Gold—2 dollars (\$2.02, 7).
Norway.....	Gold.....	Crown.....	26.8	Gold—10 and 20 crowns.
Peru.....	Silver.....	Sol.....	43.6	Silver—Sol and divisions.
Portugal.....	Gold.....	Milreis.....	1.08	Gold—1, 2, 5 and 10 milreis.
Russia.....	Gold.....	Rouble.....	51.5	Gold—Imperial (\$7.71, 8). ½ imperial (\$3.86). Silver—½, ½ and 1 rouble.
Spain.....	Gold and silver.	Peseta.....	19.3	Gold—25 pesetas. Silver 5 pesetas.
Sweden.....	Gold.....	Crown.....	26.8	Gold—10 and 20 crowns.
Switzerland.....	Gold and silver.	Franc.....	19.3	Gold—5, 10, 20, 50 and 100 francs. Silver—5 francs.
Turkey.....	Gold.....	Piastre.....	24.4	Gold—25, 50, 100, 250 and 500 piastres.
Uruguay.....	Gold.....	Peso.....	1.03, 4	Gold—Peso. Silver—Peso and divisions.
Venezuela.....	Gold and silver.	Bolivar.....	19.3	Gold—5, 10, 20, 50 and 100 Bolivars. Silver—5 Bolivars.

* Except Costa Rica.

CAPACITY OF CISTERNS

FOR EACH TEN INCHES IN DEPTH

<i>Diameter</i>	<i>Gallons</i>	<i>Diameter</i>	<i>Gallons</i>
Twenty-five feet.....	3,059	Seven feet.....	239
Twenty feet.....	1,958	Six and one-half feet.....	206
Fifteen feet.....	1,101	Six feet.....	176
Fourteen feet.....	959	Five feet.....	122
Thirteen feet.....	827	Four and one-half feet.....	99
Twelve feet.....	705	Four feet.....	78
Eleven feet.....	592	Three feet.....	44
Ten feet.....	489	Two and one-half feet.....	30
Nine feet.....	396	Two feet.....	19
Eight feet.....	313		

XXIII. THE LARGEST AND MOST REMARKABLE THINGS

REMARKABLE BRIDGES

The oldest bridge is the Sublician bridge at Rome. It is ~~is~~ a wooden bridge, and was built in the seventh century. It ~~is~~ was twice rebuilt. The ruins only remain.

The old London bridge was the first stone bridge. It was ~~was~~ begun in 1176 and completed in 1209.

The Burton bridge, over the Trent, was for many years the longest bridge in England, being 1545 feet in length.

The Holy Trinity bridge, at Florence, was built of marble, in 1569, and is 322 feet long.

The Rialto at Venice is a single marble arch, and was designed by Michael Angelo. It was completed in 1591, and is 98 feet long.

The Bridge of Sighs, at Venice, over which condemned prisoners passed to execution, was built in 1589.

The Colebrookdale bridge, England, was the first cast-iron bridge erected in 1779.

London bridge, a granite structure, was commenced in 1824 and completed in 1831, and cost \$7,291,000. **Annian bridge**, Wales, is of wrought iron, 1,511 feet long, and was finished in 1850 at a cost of \$3,008,000. It is 100 feet above high water.

Forth bridge, in Scotland, is the longest bridge in the world, being 9,696 feet long.

Bix Creek bridge, over the St. Lawrence, at Montreal, is the longest bridge in America. It is 9,184 feet long. It consists of 242 feet each, and the center span is 330 feet long and is 60 feet above the river. It cost \$7,000,000.

Brooklyn bridge, with its approaches, is 6,000 feet long, and is one of the finest suspension bridges in the world. It is 150 feet above the water. It was designed by John A. Roebling, and completed in 1883 by his son, and occupied 10 years in its construction.

Clackmannanshire bridge, over the Forth river, in Scotland, is 5,552 feet long. **Moerdijk bridge**, in Holland, 4,820 feet; over the Volga, 4,715 feet; at Weichsel, in Germany, 4,346 feet; **Albion bridge**, Germany, 3,580 feet, and over the Mississippi river, 2,200 feet.

LARGEST TUNNELS

Suez canal, one of the greatest engineering enterprises of the century, was begun November 13, 1859.

The canal will be twelve and a half miles long, the longest in the world, is to be completed in five and a half years, and is to cost \$13,413,500. It will be the third tunnel in the world, after the **Suez canal** and the **St. Gotthard tunnel** in Italy with outlying countries by rail, and will be three and a half miles between Paris and Milan.

The St. Gothard tunnel is 49,170 feet in length ; the Cenis, 40,620 feet ; Baltimore, 32,400 feet ; Hoosac, 21,120 feet ; Sutro, 21,120 feet.

The summit of the St. Gothard tunnel is 900 feet below surface at Andermatt, and 6,600 feet beneath the peak of the Kastlehorn, of the St. Gothard group. The tunnel is 25 feet wide and is 18 feet 10 inches from the floor to the crown of the arched roof.

The largest bell in the world is the great bell at Moscow at the foot of the Kremlin. Its circumference is nearly 25 feet, and its height more than 21 feet. It is 23 inches in its stoutest part, and weighs 433,722 pounds. It has never been hung.

The largest theater in the world is the new Opera-house in Paris. It covers nearly three acres of ground ; its floor mass is 4,287,000 feet ; it cost about 100,000,000 francs.

The largest suspension bridge is the one between New York City and Brooklyn ; the length of the main span is 1,595 feet 6 inches ; the entire length of the bridge is 2,635 feet.

The loftiest active volcano is Popocatepetl ; it is 17,800 feet above the sea level, and has a crater three miles in circumference, and 1,000 feet deep.

The longest span of wire in the world is used for a telegraph in India over the River Kistnah. It is more than 2,000 feet in length, and is 1,200 feet high.

The highest lighthouse is at Hell Gate, New York. It is 150 feet, and has nine electric lamps of 6,000 candlepower.

The greatest fortress, from a strategical point of view, is Gibraltar. It occupies a rocky peninsula jutting out

the sea, about three miles long and three-quarters of a mile wide. One central rock rises to a height of 1,435 feet above the sea level. Its northern face is almost perpendicular, while its east side is full of tremendous precipices. On the south it terminates in what is called Europa Point. The west side is less steep than the east, and between its base and the sea is the narrow, almost level span on which the town of Gibraltar is built. The fortress is considered impregnable to military assault. The regular garrison in time of peace numbers about 7,000.

The biggest cavern is the Mammoth Cave, in Kentucky. It consists of a succession of irregular chambers, some of which are large, situated on different levels. Some of these are traversed by the navigable branches of the subterranean Echo River. Blind fish are found in its waters. The deepest mine in the world is the Lambert coal mine in Belgium, 3,400 feet.

The biggest trees in the world are the mammoth trees of California. One is 276 feet in height, 108 feet in circumference at base, and 76 feet at a point 12 feet above ground. Some of the trees are 376 feet high, and 34 feet in diameter. Some of the largest that have been felled indicate an age of from 2,000 to 2,500 years. The tallest trees in the world are the Australian Eucalyptus, 480 feet.

The largest library is the Bibliothèque Nationale, in Paris, founded by Louis XIV. It contains 2,000,000 volumes, 300,000 pamphlets, 175,000 manuscripts, 300,000 maps and charts, and 150,000 coins and medals. The collection of engravings exceeds 1,300,000, contained in some 10,000 volumes. The portraits number about 100,000. The British

Museum contains 1,500,000 volumes. The Imperial Library at St. Petersburg contains 1,500,000 volumes.

The largest desert is that of Sahara, in Northern Africa. The length from east to west is about 3,000 miles, its average breadth about 900 miles, its area about 2,000,000 square miles. Rain falls in torrents in the Sahara at intervals of five, ten and twenty years. In summer the heat during the day is excessive, but the nights are often cold.

LARGEST CHURCHES

<i>Capacity</i>	<i>Capacity</i>
St. Peter's, Rome..... 54,000	St. John's, Lateran... 22,900
Cathedral, Milan..... 37,000	Notre Dame, Paris..... 21,000
St. Paul's, Rome..... 32,000	Cathedral, Pisa..... 13,000
St. Paul's, London..... 25,000	St. Stephen's, Vienna..... 12,400
St. Petronia, Bologna..... 24,400	St. Dominic's, Bologna... 12,000
Cathedral, Florence..... 24,300	St. Peter's, Bologna..... 11,400
Cathedral, Antwerp..... 24,000	Cathedral, Vienna..... 11,000
St. Sophia, Constantinople..... 23,000	

XXIV. DISEASES OF CHILDREN

To Cure Canker.—Apply sage tea sweetened with honey or loaf sugar. Rub a little powdered alum or borax on the canker spot.

What to do in Cases of Cholera Infantum.—Send for a doctor, and in the meantime put the child into a warm bath, and apply hot water bags or hot sand bags to the bowels.

How to Treat Convulsions.—While waiting for a physician, put the child into a hot bath. If caused by overfeeding, try to excite vomiting, in the interval of the fits, by *tickling the mouth* with a feather or with the finger. If *caused by weakness*, the result of illness, give a little stimulant.

food, or, if the child is very much reduced, a little very weak brandy and water sweetened. If resulting from swollen gums over a coming tooth, the gum should be lanced.

Best Treatment for Croup.—Send for a physician at once. Put the child in a warm bath ninety degrees, increasing to one hundred and four. Apply a sponge wrung out of hot water to the throat, and hot flaxseed poultices to the chest and back. Admit fresh air, but guard the child from draughts. Ammonia may be applied cautiously to the nostrils, and cold water dashed on the face or chest will sometimes excite respiration.

What to do for Diphtheria.—Send for a physician at once. As soon as the dreaded membrane is formed in the throat, take a live coal and on it drop tar. As the smoke arises, convey it to the mouth of the patient by inverting the bowl of a common clay pipe, and allowing the smoke to pass through the mouth and out through the nostrils. Let this be done every hour, until the membrane is destroyed. A small funnel and rubber-tube may be used instead of the clay pipe.

To Remove Warts.—Warts will often disappear of themselves in time; or they may be rasped with a file and touched with a stick of nitrate of silver. The crushed leaves of the common bean yield a juice, which squeezed on warts two or three times a day, will cause them to dry up and disappear.

Baked Milk as a Nourishing Food.—Milk put into a stone jar, tied down, and put into an oven and baked for *several hours*, is very nourishing for invalids and delicate children, and tastes almost equal to cream.

CONTAGIOUS DISEASES

Parents should know the period necessary for the development of the following diseases after the child has been exposed. With what anxiety the final day of suspense approaches! With what joy it passes if no symptoms of the dread disease have appeared!

Disease	Day on which symptoms usually appear	Anxious period ranges from	Patient is infectious
Chicken-Pox.....	14th	10-18 days.	Until all scabs have fallen off.
Diphtheria.....	2d	2-5 days.	14 days after disappearance of membrane.
Measles.....	14th	10-14 days.	Until scaling and cough have ceased.
Mumps.....	19th	16-24 days.	14 days from commencement.
Scarlet Fever.....	14th	12-20 days.	10-14 days from commencement.
§ Rubella.....	4th	1-7 days.	Until all scaling has ceased.
Small-pox.....	12th	1-14 days.	Until all scabs have fallen off.
§ St. John's Wort.....	21st	1-28 days.	Until diarrhea ceases.
Whooping-Cough.....	14th	7-14 days.	§ Six weeks from beginning to whoop.

§ In measles the patient is infectious three days before the eruption appears.

§ More familiarly known as German measles.

§ In whooping-cough the patient is infectious during the primary cough, which may be three weeks before the whooping begins.

Limits of Natural Vision.—The limits of vision vary with elevation, condition of the atmosphere, intensity of illumination, and other modifying elements in different cases. In a clear day an object one foot above a level plain may be seen at the distance of 1.31 miles; one ten feet high, 4.15 miles; one twenty feet high, 5.86 miles; one 100 feet high, 13.1 miles; one a mile high, as the top of a mountain, 95.23 miles.

THE FOLLOWING INDICATIONS MAY HELP TO DETERMINE THE NATURE OF A
SUSPICIOUS ILLNESS

Rash or Eruption	Appearance	Disease	Duration in days	Remarks
Small rose pimples changing to vesicles.	2d day of fever or after 24 hours' illness.	Chicken-pox.	6-7	Scabs form about 4th day of fever.
Diffuse redness and swelling.	2d or 3d day of illness.	Erysipelas.		
Small red dots like flea-bites.	4th day of fever or after 72 hours' illness.	Measles.	6-10	Rash fades on 7th day.
Bright scarlet diffused.	2d day of fever or after 24 hours' illness.	Scarlet fever.	8-19	Rash fades on 5th day.
Small red pimples changing to vesicles, then pustules.	3d day of fever or after 48 hours' illness.	Small-pox.	14-21	Scabs form 9th or 10th day, fall off about 14th.
Rose-colored spots, scattered.	7th to 14th day.	Typhoid Fever.	22-30	Accompanied by diarrhea.

The Human Pulse.—At birth, the beats of the pulse are from 165 to 104, and the inspirations of breath from 70 to 23 per minute. From 15 to 20 years of age, the pulsations are from 90 to 57, the inspirations from 24 to 16; from 29 to 50 years of age, the pulsations are 112 to 56, the inspirations 23 to 11. In usual states of the pulse is four times as frequent as the inspiration of the breath. The action of the heart distributes 2 ounces of blood from 70 to 80 times in a minute.

Honey as a Medicine.—Valuable, especially in lung troubles, contains starch and sugar which have been digested by the bees. Occasionally one with whom it does not agree, but most people can with good results.

The following small-pox remedy was given by a correspondent of the Stockton (Cal.) *Herald*, who says: "I here with append a recipe which has been used, to my knowledge, in hundreds of cases. It will prevent or cure small-pox though the pittings are filling. It will also cure scarlet fever. Here is the recipe as I have used it to cure small-pox: Sulphate of zinc, one grain; foxglove (digitalis), one grain; half a teaspoonful of sugar. Mix with two tablespoonfuls of water. When thoroughly mixed, add four ounces of water. Take a teaspoonful every hour. Either disease will disappear in twelve hours. For a child smaller dose according to its age."

XXV. SICK DIET

To Prepare Indian Gruel.—Stir slowly into a quart of boiling water half a cup of Indian meal, let it boil add salt. A little milk may be added.

How to Make Oatmeal Gruel.—Take a tablespoon of oatmeal and two of cold water. Mix them thoroughly and stir into a pint of boiling water. In a quarter of an hour strain for use.

An Excellent Recipe for Beef Tea.—Take a pound of beef from the neck or rump, and cut into small pieces without water; cover tightly, and gradually to a boil, a

y for three or four hours, until the juice is all drawn season with salt to taste, and when cold, skim.

her excellent way is to place the chopped meat, the no smaller than a hickory nut, in the saucepan, and t with pounded ice two inches deep. Let it stand for minutes, or until the blood of the meat is all drawn o the ice, then put ice and meat on the hot fire. it boils the tea is made.

Prepare Arrowroot.—An excellent gruel may be with three dessertspoonfuls of Bermuda arrowroot with cold water to a paste, then stirred into a pint of milk. It is especially valuable in cases of diarrhoea.

How to Make Slippery Elm Tea.—Break the bark ial pieces, pour boiling water over it, cover and let it until cold. Add a little sugar and cracked ice, and r summer disorders, or, add lemon-juice and drink ad cold.

Make Toast Water.—Take slices of toast bread, browned, and pour enough boiling water to cover Cover closely, and let them steep until cold. Strain ter, sweeten and put a piece of ice in each glassful. physician permits, add a little lemon-juice.

Make Egg Lemonade.—Take the white of one ie tablespoon sugar, half a lemon, one goblet of water. oroughly together. Excellent in cases of inflamma- the lungs, stomach or bowels.

Prepare Flax-seed Lemonade.—The following xcellent remedy for colds. Take four tablespoonfuls ed (whole) ; one quart boiling water poured upon the d ; juice of two lemons, omitting the peel. Sweeten . Steep three hours in a covered pitcher. If +

thick, put in cold water with the lemon-juice and sugar. Ice for drinking.

Value of Rice Water.—Prepare from the water in which the rice was boiled, carefully strained. It is useful in cases of diarrhoea.

Uses of a Sand-bag.—Get some clean, fine sand, and dry it thoroughly in a kettle on the stove. Make a bag about eight inches square of flannel, fill it with the dry sand, sew the opening carefully together, and cover the bag with cotton or linen cloth. This will prevent the sand from sifting out, and will also enable you to heat the bag quickly by placing it in the oven, or even on the top of the stove. The sand holds the heat a long time, and the bag can be tucked up to the ear, face, chest, spine, abdomen, or feet without hurting one. Two or three of these bags should be kept ready for use. Children with toothache or earache can often be put to sleep by their use.

To Prevent Foul Odors in Sick Rooms.—A few drops of the oil of sandalwood dropped on a hot shovel, will be found to diffuse a most agreeable balsamic perfume throughout the atmosphere of sick rooms or other confined apartments.

Hints for the Sick Room.—In the preparation of a meal make it look as tempting as possible. The silver, the glass, the china, the napkins should fairly sparkle with cleanliness.

The dishes should be limited in kind and in quantities. A feeble appetite is easily disgusted by a large quantity of food offered at one time. If the patient asks for a certain dish, give it to him with the doctor's permission, but he should not be consulted as to what he will have. Prepare

what he is known to like, if suited to him, and offer without previous comment. A good nurse thinks for her patient, anticipates his slightest wants and gratifies them before he has had time to express them. Her quick observation should detect the first symptom of worry and remove the cause. A cheerful quiet should always pervade the sick chamber. The noise of children and the strident voices of servants should never enter the sick room. A convalescent's friends are often his worst enemies. The nurse is responsible for the care and protection of her patient and should never suffer his friends to shock his nerves or exhaust his strength. She should keep strict watch upon visitors to the sick room, and when she perceives it to be necessary, she must kindly but firmly dismiss them.

DIGESTION

Average time required for the digestion of the following articles of food :

<i>Hours</i>	<i>Hours</i>
Apples, sweet (boiled).....2.30	Lamb (boiled).....2.30
Barley (boiled).....2	Milk (raw).....2.15
Beans, Lima (boiled).....2.30	Milk (boiled).....2
Beef (roasted).....3	Mutton (boiled).....3
Beef (fried).....4	Mutton (roast).....3.15
Beef, salt (boiled).....2.45	Oysters (roast).....3.15
Bread.....3.30	Oysters (stewed).....3.30
Butter.....3.30	Pigs' feet, soused (boiled).....1
Cheese.....3.30	Potatoes (baked).....2.30
Chicken (fricaseed).....2.40	Pork, salt (stewed).....3
Custard (baked).....2.45	Pork (roast).....3.15
Duck (roasted).....4	Rice (boiled).....1
Eggs (raw).....2	Sago (boiled).....1.45
Eggs (soft boiled).....3	Soup, barley.....1.30
Eggs (hard boiled).....3.30	Soup, chicken, etc.....3.15
Eggs (fried).....3.30	Tripe, soused (boiled).....1
Fish, various kinds (raw, boiled, fried).....2.44	Turkey (roast).....2.30
Fowl (roast).....4	Veal (boiled).....4
Hashed meat and vegetables (warm).....2.30	Veal (fried).....4.30

SAUCES SUITED TO CERTAIN MEATS AND FISH

Roast Beef.—Worcestershire Sauce, Tomato Catsup, Grated  Horseradish.

Roast Mutton.—Stewed Gooseberry.

Roast Pork.—Apple Sauce.

Roast Lamb.—Mint Sauce.

Roast Chicken.—Currant Jelly, Plum or Grape Catsup.

Roast Duck.—Black Currant Jelly.

Roast Turkey.—Cranberry Sauce, Celery Sauce.

Roast Goose.—Apple Sauce, Stewed Gooseberries.

Roast Venison.—Black Currant Jelly.

Boiled Mutton.—Caper Sauce.


Boiled Turkey.—Oyster Sauce.

Pigeon Pie.—Mushroom Sauce.

Broiled Steak.—Mushrooms or Fried Onions.

Broiled Mackerel.—Stewed Gooseberries.

Fried Salmon.—Egg or Cream Sauce, Stewed Tomato.

Baked or Boiled Fish.—White Cream or Old Zealand  Sauce, Drawn Butter.

Baked or Boiled Cod.—Egg Sauce, Tomato Sauce.

XXVI. TO CLEANSE AND POLISH METALS

GLASS, WOOD, ETC.

To Polish Silverware.—Silicon mixed with a little alcohol and applied with a small piece of canton flannel, then polished off with chamois cloth, will give a bright luster.

Use no soap.

Mustard Stains on Spoons.—For mustard stains, rub the spoons with moistened salt.

To Polish Nickel.—Rub with kerosene and whiting, and polish with a dry cloth. A good rubbing with a bit of flannel is often sufficient. Or make a thin paste of baking soda and aqua ammonia. Apply with a rag and rub with a bit of flannel.

To Brighten Stair-rods.—If of brass, rottenstone and sweet oil, applied with a woollen rag, will polish them.

To Polish Bronze.—Immerse the article in boiling water and clean with flannel dipped in soap-suds and rub dry with a chamois. If an urn, fill it with boiling water before the exterior is cleaned.

To Clean Brass and Copper.—Use rottenstone mixed with oil and apply with a chamois. For copper boilers use Oxalic acid.

To Polish Gilt Frames.—To clean them, take a very little soft soap, dissolve in half-pint of rain-water, add half wine-glass of spirits of hartshorn, and apply with a soft camel's-hair brush. Wash off after two or three minutes, with clean soft water and dry in the sun. The next day rub with chamois. To restore gilt frames wash them over carefully with a little water in which an onion has been boiled and to which a little powdered sulphur has been added.

To Polish Grates.—To clean polished steel, cover with a paste of sweet oil and emery powder. Then dry, rub off with leather dipped in the emery powder.

To Brighten Tins.—Keep them perfectly dry. Tea and coffee pots should be drained and have their lids left open. Wash inside and out with hot water and soda, and dry. Make a paste with whiting and water. Rub the outside with this, let it dry, rub off with a soft cloth, and polish

with a leather and dry whiting. Kerosene, applied with a woolen rag, will make tinware bright as new, but should not be used in the inside of cooking or drinking vessels.

Ashes for Scouring Tins.—The fine, soft coal-ashes which are found in the pipe and which sift under the pan, are excellent with which to scour tin. Dip a piece of old flannel lightly into soft soap, and then in the ashes, and then rub well with a clean flannel. Or, scour with baking soda and wash with soap and water.

To Polish Gilt Articles.—Clean with a soft brush and a little pure soap. Rinse in clean water, wipe carefully, and dry near the fire. Then polish with finely-powdered burnt bread. Wipe gilding gently with a cotton rag, dipped in sweet oil.

To Polish Ivory, Pearl, Shells, etc.—Moisten prepared chalk or whiting and apply rapidly with chamois leather. Or, wash in warm water and soap with a brush, and place the article, under glass, in the full sunshine, repeating the process for two or three days. Bleach by immersing in water containing a little sulphurous acid, chloride of lime, or chlorine.

A paste made of powdered rottenstone and olive oil, thinned with oil of vitriol and applied with a cork covered with velvet, will polish pearl.

To polish shells treat with nitric acid until the inner enamel is reached, which may be polished with leather. To restore the polish of shells, apply milk with a nail-brush and polish with leather.

To cleanse and polish jewelry wash it with soap and warm water applied with a soft brush. Dry the articles between two soft towels. Spirits of wine and a little powdered ashes

or a little dry whiting applied with a soft brush or chamois will serve to give a polish. Spirits of wine and a little powdered French chalk, will polish jewelry.

For *marble*, clean with sand, then with emery powder, finishing with putty powder. Or, boil equal parts of soft soap and powdered whiting, say four ounces of each, with one ounce of soda. When thoroughly blended, apply hot, and let it remain for a day or two. Then clean with soap and warm water.

To polish horn rub it with emery powder and water, then dry and rub with jewelers' rouge.

To Clean Glass Globes.—If stained by smoke, place them in warm water, with a little washing soda dissolved in it ; place on the stove until the water approaches the boiling point, then let them cool. Put a tablespoonful of ammonia into a pan of lukewarm water, and, with a tolerably hard brush, wash the globes till the smoke stain disappears ; rinse in clean, cold water, and let them drain till dry. Do not wipe them.

To Polish Tortoise Shell.—Rub combs with soft leather or chamois after they have been worn. Rub frequently with rottenstone and oil.

To Cleanse Windows.—A few drops of ammonia in the water will prove helpful. Or dissolve a little washing-soda in the water. Do not let it run on the sash, but wash each pane with old flannel ; dry quickly with a soft, clean towel. Polish with chamois skin, or newspapers, or whiting mixed with alcohol. Ten cents' worth of oxalic acid dissolved in a pint of hot water will remove paint spots from the windows. Pour a little into a cup and apply to the spots with a swab. Do not allow the acid to touch the hands.

Put a little spirits of ammonia on a sponge, and rub over both sides the glass, touching every part, then rub quickly with a soft paper till dry. This gives a beautiful polish and does away with the use of soap or water.

To Remove Stains from Mahogany.—If the wood is stained from heated plates, it may be restored by rubbing on a little linseed oil, and afterward spirits of wine. Ink-stains may be removed by a mixture of oil of vitriol and water, a teaspoonful to a tablespoonful, or with oxalic acid in warm water, applied with a brush or soft flannel, then washed off with milk. Do not touch the acid with the hands.

To Polish Rosewood.—Rosewood furniture should never be rubbed with anything but a soft cloth.

To Clean and Polish Furniture.—For cleaning furniture use kerosene oil rubbed on with a rag. For polishing rub with linseed oil. Spots in varnished furniture may be removed by rubbing them with spirits of camphor, and afterward using furniture polish of cold linseed oil.

Treatment of Floors.—Floors that are stained may be cleaned by rubbing well every week with a lump of beeswax, then polish with a furniture brush. Stained or varnished floors may be kept light by wiping with a solution of milk and water.

Hard-wood floors.—Rub well with linseed oil. Wax and turpentine may also be used.

To stain floors.—Put on two or three coats of good black walnut stain applied with a brush and let the floor dry thoroughly between the coats.

To paint floors.—A durable and cheap paint for hard floors, may be made by dissolving one ounce of glue in a quart of warm water, and thicken it with paint. Add

ting this on, go over it with a coat of boiled linseed oil. It will be dry and ready for use in two hours.

Newspapers for Cleaning.—Old newspapers are very serviceable in polishing newly cleaned silver, knives, and forks, and tinware. They are also excellent to polish stoves that have not been blackened for some time: add a little grease. For polishing windows, mirrors, lamp chimneys, etc., paper is better than dry cloth.

To Clean Mica.—Take a little vinegar and water and wash the mica carefully with a soft cloth; the acid removes all stains, and if a little care is taken in cleaning the corners and in wiping them dry, the mica will look as well as new.

To Polish a Stove.—Mix a little vinegar or cider with stove-polish and it will make the stove bright, and the blacking is not likely to fly off in fine dust.

The Care of Woodwork.—After washing woodwork, wipe it with a soft cloth; this prevents drops of water being left to dry and to discolor the paint.

How to Sever Glass.—Dip a worsted thread in spirits of turpentine, and put it round the glass in the direction you require it to be severed; then set fire to the thread, and the glass will break in the direction of the thread. A red hot small wire may be used instead of the thread. If it does not crack immediately, throw cold water on it, and the desired effect will be accomplished.

Cleaning Cold Trinkets.—Boil the trinkets in water of ammonia, which dissolves the metallic copper of the alloy to a certain depth, so that after the operation the metal is, in fact, gilded, nothing but pure gold being visible. In this process the waste of gold that accrues from the usual method of cleaning is entirely avoided.

To Clean Tea Trays.—Never pour boiling them, especially if they are japanned, for this will ruin the varnish ; but rub them with a sponge dipped in water with a little soap. Dust on a little flour, and rub with a cloth. If a paper tray be scratched or marked, rub with a piece of woollen cloth and some sweet oil. Tea trays should be wiped perfectly dry. If any wet remain on them, it will leave a mark.

To Clean Knives.—Take a piece of wash-lea in damp brick-dust, rub over the blade, and dry afterwards.

To Clean Bottles.—Salt moistened with vinegar will move stains from water bottles.

How to Treat New Kettles.—Fill the kettle with potato-peelings, boil them for an hour or more, then wash the kettle with hot water, wipe it dry, and rub with a little lard ; repeat the rubbing for half a dozen times. This will prevent rust, and all the attending the use of a new kettle.

XXVII. TO CLEAN CARPETS, MATTING, CLOTH, LEATHER, ETC.

To Freshen Carpets.—To clean carpets mix with twice or three times its bulk of water, and use a sponge. On spots that are very dirty use pure lather. Rub gently to produce a lather, then wash off with water and dry with a linen rag. After the carpet has been well cleaned, sprinkle with salt and fold ; strew with slightly moistened bran before sweeping. *With salt, will freshen them up wonderfully.*

Ammonia diluted with water, if applied with a sponge or flannel to discolored spots of the carpets or garments, will often restore the color. Soda or alum in weak solution are also good.

To Clean Straw Matting.—Wash the matting with a cloth dipped in clean salt and water, and wipe dry.

To Clean Bottles.—Bird-shot or coarse sand may be put with water into the bottle and shaken round in it a few minutes. Medicine bottles may be cleansed by putting ashes and water in each, immersing them in cold water, and then heating the water gradually till it boils. Crushed egg shells are a good cleaner.

To Clean Leather.—To clean white leather gloves or belts, rub with pipe-clay.

Leather on writing-cases, etc, may be sponged with a weak solution of oxalic acid in warm water. To restore the luster rub with a soft cloth dipped in the white of an egg.

To Clean Paint.—Dip a flannel cloth into warm soap-suds, and then into whiting, and apply. Wash with clean water and wipe dry, and the paint will look like new.

To Clean Oil-Cloths.—Wash them with warm milk. Scour occasionally with hot soap-suds, dry thoroughly, and apply a coat of varnish, and they will last twice as long. To remove white spots caused by heat apply a little alcohol or spirits of camphor and rub with a dry cloth.

To Clean Japanned Goods.—Rub with a soft cloth wet in water slightly warm. To remove smear, sprinkle with flour or a little whiting and wipe clean.

To Clean Iron Sauce-pans.—Wash the pans well with hot water and soda, and scour them with rough sand, or with fine ashes.

To Clean Griddles.—After washing them well with soap and water, wipe, and rub them well with dry sash. Then heat, and grease with a bit of fat salt pork.

To Remove Putty.—To remove putty from a window sash, apply a hot poker.—To remove it from window-pane, dissolve pearlash in hot water, saturate the spots, let it remain till nearly dry, then rub off with a woolen cloth.

To Clean Varnished Paint.—Save the tea leaves for a few days, steep them for half an hour, strain through sieve, and use the tea to wash all varnished paint. It will make the varnish equal to new. It cleans window sashes and oil-cloths; it washes window panes and mirrors much better than water, and is excellent for cleaning black walnut picture frames. Do not wash unvarnished paint with it.

Care of Brooms.—Brooms that are dipped into boiling soap-suds once or twice a week will become very pliable and tough. They will not cut the carpet in sweeping, and will last much longer. A handful of salt or tea leaves left over if sprinkled over the carpet before sweeping, will carry dust along with them and cause the carpet to look bright and clean. A very dusty carpet is best cleaned by thorough sweeping and then wiped over with a sponge or cloth dipped in alum water. Press out the sponge frequently in clean water and moisten again with the alum water.

Hints on Papering.—Never paper a wall over old paper and paste. Old paper can be removed by dampening with saleratus water. Fill the cracks and holes with plaster Paris, and wash the walls with a weak solution of carbolic acid. Use rye flour for the paste with two ounces of gum dissolved in each quart of paste. Add half an ounce of powdered borax.

To Repair Walls.—Small holes in white walls can be repaired by taking equal parts of plaster of Paris and white scouring sand. Mix with water to a paste, apply immediately and smooth with a knife. As the mixture hardens very quickly, prepare but a small quantity at a time.

To Correct Creaking Hinges.—To prevent door-hinges from creaking, rub them with soap, or oil the hinges with a feather.

To Polish Furniture.—After thoroughly dusting and wiping off with a damp cloth, apply a thin coat of varnish, and so cover up scratches and spots of all kinds. It will dry in a short time, and the result will be surprising. A flannel cloth, with a very little linseed oil, will polish furniture nicely. Rub until no oil remains to catch the dust.

To Varnish Oil-cloth.—Coach varnish will make old oil-cloths look like new. Wash and wipe before applying the varnish. Be careful not to step on them until they are dry. If this is done every spring, the oil-cloths will last twice as long as they will without it.

Covering for Closet Floors.—Oil-cloth or matting is much better than carpet in closets and can be easily kept free from dust.

Matting.—Matting, after being swept, should be wiped with a damp cloth. Hot water and salt will thoroughly cleanse it, and will not discolor it.

Lining for Stair Carpets.—Take strips of an old bed-quilt, have them not quite the width of the staircase, wash and dry them, then put smoothly over the edge and upper surface of the stairs. Tack in a few places. It is softer than old carpet, will not wear the outer one nearly so much and is cheaper than the nice linings that are made for this purpose.

To Drive Away Moth.—Camphor is considered best to prevent moth from taking lodgment in carpet. When the carpet is laid, it may be lightly sprinkled with a preparation of camphor and under usual conditions the carpet should be beaten not less than twice a year. If stored away, after beating, the carpet should be thoroughly covered with wrapping paper.

To Remove Match Marks from a Polished Surface.—Rub with a piece of cut lemon, and afterwards with a rag dipped in water, and the stains will disappear.

XXVIII. TO REMOVE GREASE, PAINT, SCORCH, STAINS, RUST, INK, ETC.

To Remove Grease.—To remove grease from books and paper, heat two blotters and place the soiled paper or leaf of book between, and subject to pressure, or press a hot iron upon the blotter.

To Remove Grease from Linen.—Wash in a strong solution of soda and water.

To Remove Grease from Silk.—Put a sheet of thick, soft, brown paper over the spot, and press a hot iron quickly over it and instantly lift the paper.

To Remove Paint Spots.—Rub briskly with a sponge dipped in turpentine or benzine, and afterwards with a clean cloth. Rub from the circumference to the center, to keep from spreading. Rub till dry, lest a slight mark may remain. From the hands, remove by rubbing with grease or butter, then washing with soap and water.

To Remove Scorches.—Squeeze the juice from a boiled onion : put with it soap, fuller's earth, and vinegar, a very

little of each, spread the mixture on the scorched place and leave till dry. Then rinse thoroughly.

To Remove Medicine Stains.—Rub with a rag dipped in sulphuric acid, then wash in soap and water.

To Remove Fruit Stains.—Fruit stains may generally be removed by the use of soap and water. A weak solution of ammonia or one spoonful of spirits of salt to two of water, when the stains is set, will prove affective. For white and fast-colored cotton, use chloride of soda.

Fruit and wine stains are removed from clothing by stretching the stained part over a basin and rubbing it with salt ; then pour boiling water over it until the stain is no longer visible. If the stain has become dry use sparingly salts of lemon and thoroughly rinse the garment afterwards.

To Remove Wine Stains.—Rub the linen on both sides with soap, then lay on very thick a mixture of starch and cold water. Rub in well and expose to the sun and air.

To Remove Milk Stains.—Rub with benzine, then wash with warm borax water containing potash at the rate of half an ounce to a pint.

To Remove Soot.—If soot fall on the carpet cover thickly with salt, and brush up carefully soot and salt, confining it to the spot first soiled.

To Prevent Wooden Bowls from Cracking.—Immerse in cold water, bring to the boiling point, boil an hour or two, then let the water cool gradually. Hot lard poured over them is also recommended.

To Prevent Mold.—A few drops of essential oil dropped into the box in which books are packed, will prevent them from molding. Oil of turpentine rubbed on harness will prevent mold.

For mold on cucumber pickles, put them into a fresh bottle, boil the vinegar again, and pour over them.

How to Kill Grease Spots before Painting.—Wash over smoky or greasy parts with saltpetre, or very thin lime white-wash. If soap-suds are used, they must be washed off thoroughly, as they prevent the paint from drying hard.

To Remove Egg Stains.—Egg or mustard stains may be removed from spoons, by rubbing with moist salt or whiting.

To Remove Acid Stains.—To remove stains from acids, wash with ammonia. A weak solution of chloroform will often restore the tint which has been dulled by the acid.

Stains from alkaline liquors may be removed with lemon-juice, unless lemon will spoil the color of the goods.

To Clean Knives.—In washing knives with bone or rubber handles, put the knives into a jar of boiling water so that the water will not reach the handles.

To remove vinegar and fruit stains, rub the knives with raw potato, then clean as usual.

To Remove Rust.—To remove rust from any metal, rub with paste of emery powder and sweet oil.

To Remove Iron Rust.—Wash the fabric with lemon juice and salt ; or moisten the part with water and apply a mixture consisting of an ounce of cream of tartar and half an ounce of oxalic acid. Mix well and apply only a small quantity to the stain. Then wash in clear water.

To Remove Ink Stains.—Soak the material in sweet milk, and cover the spot with table salt. Repeat two or three times if necessary. When the stain is obstinate, *moisten the soiled part, spread the fabric over a basin filled*

with warm water, and sprinkle a pinch of salts of lemon on it. Rub gently till it disappears, then rinse several times. Or soak the article in a solution of chloride of lime, or rub with tincture of iodine, then rinse in a solution of ammonia.

To remove from carpets, rub while wet with blotting paper. Cover the spot thickly with salt and moisten the salt with sweet milk. When dry remove the salt. Repeat the process if necessary.

To remove from floors, scour with sand wet in a mixture of water and oil of vitriol. Rinse, when the ink is extracted, with strong pearlash water.

To Remove Mildew.—Soak the garment over night in buttermilk. Spread on the grass in the sun to dry. A little salt added to the buttermilk will be found helpful. Or, mix soft soap with powdered starch, half as much salt, and the juice of a lemon. Spread this on both sides of the soiled fabric. Let it lie on the grass day and night, renewing the application two or three times a day. Salt wet with tomato juice will sometimes remove the stain.

XXIX. CARE OF LAMPS

The Burner.—To keep the burner in good condition boil it occasionally in a strong solution of borax or soda, then rinse in clear water and dry quickly over the range or in the oven. As a result it will emit a better light, is not so likely to smoke, and the wick will move up and down more readily.

The Wick.—Wicks soon become clogged, which prevents the free passage of oil. They should be washed and dried and then replaced. Wicks, new or old, if soaked in vinegar

for a time and thoroughly dried will give a b and will not smoke.

Leave the wick low when first lighted, to av The black charred surface should be carefull each morning with a rag or piece of soft pa tooth brush.

A tablespoonful of salt placed in the reservoi will make the light whiter and brighter.

Filling the Lamps.—Lamps should be fill not too full. Do not allow the oil to get low, a apt to be filled with gas and an explosion may

Oil.—Use a good grade of oil. Cheap oils giv and greatly increase the danger of explosion.

A Perpetual Lamp.—Take of dry phosphor olive oil, or ether, six parts: put them into a p and place it in warm water for two or three hou remove the cork. Sufficient light will be emitt a person to see the time by his watch. One bot pared, will last for years if corked as soon as

Lamp Chimneys.—After washing set th range or in the oven until thoroughly dry and Or instead of washing, pour a few drops of k newspaper and rub the chimney inside and out. soap.

The Largest Kitchen.—The largest kit world is the Bon Marché, Paris. There are 6 roo kitchen boys. The smallest kettle holds 7 largest, 375 quarts. There are 50 frying pans e 300 cutlets. Over 7,800 eggs are used in omele fast, and 750 quarts of coffee are made daily.

XXX. POSTAL REGULATIONS

Rates of Postage, Domestic Mail Matter :

- 1st Class.—Written or sealed matter, per ounce or fraction thereof.... 2 cents
- 2d Class.—Newspapers and periodicals sent from office of publication, per pound or fraction thereof..... 1 cent
- 3d Class.—Miscellaneous printed matter, each two ounces or fraction thereof.... 1 cent
- 4th Class.—Merchandise and all mailable matter not included in the first three classes, per ounce or fraction thereof 1 cent

Domestic mail matter includes all matter passing between points in the United States, between the United States and Porto Rico, Guam, and the Philippine Islands, and between these Islands. Letters properly endorsed, to or from soldiers or sailors in the United States service, stationed in Cuba or the Hawaiian Islands, are subject to domestic rates of postage.

Classes Defined.—First-class matter includes everything of a personal or private nature, and wholly or partly in writing, sealed matter, and anything closed against inspection.

Postal cards and private mailing cards, one cent each.

Drop letters mailed at letter carrier offices, two cents for each ounce or fraction thereof ; one cent at other offices. Typewriting is classed the same as handwriting.

Second-class matter embraces newspapers and other publications issued at stated intervals, not less than four issues

a year, and sent from a known office of public agents may send to subscribers and to other agents at second-class rates, any publications regularly published second-class matter, and may return unsold copies of second-class matter to other agents at the pound rate, but all matter returned to the publisher will require postage at one cent for each four ounces or fraction thereof.

Third-class matter includes books, circulars and other printed matter (not included in second-class matter), proof-sheets, revised proof-sheets, and copy accompanying the same. Imitations of or typewritten matter in quantities of twenty or more copies, if mailed at the post-office window, as third-class matter. Hand-stamped imprints of a certain character may also be sent as third-class matter.

Seeds, bulbs, roots, scions and plants, although not fourth-class matter, are by special act mailable as fourth-class matter, with all the privileges of fourth-class matter.

Fourth-class matter embraces everything that is not included under the first three classes.

Special Delivery.—Letters or parcels for immediate delivery must be stamped with a special ten-cent duty in addition to the lawful postage. This will insure the letter or package to immediate delivery within the limit of a free delivery office, between 7 A. M. and 7 P. M. and within the radius of one mile from the office, other than free delivery or letter-carrier office.

Money Orders.—The safest way to send money by the mails is by the money order system. On money orders not exceeding \$2.50 the charge is 3 cents.

less, 5 cents ; \$10 or less, 8 cents ; \$20, 10 cents ; \$30, 12 cents ; \$40, 15 cents ; \$50, 18 cents ; \$60, 20 cents ; \$75, 25 cents ; \$100, 30 cents.

The rates to most foreign countries are : \$10 or less, 10 cents ; \$20, 20 cents ; \$30, 30 cents, and so on up to \$100, the charge increasing at the rate of 10 cents for each \$10 or fraction thereof. The charge for money orders to Cuba is the same as for domestic orders. Money orders to Mexico cost just half the rates to other foreign countries.

Rates to Foreign Countries.—The rate of letter postage to Canada and Mexico is the same as in the United States. To all other countries within the Postal Union the rates are : letters, per half ounce, 5 cents ; postal cards, 2 cents ; double postal cards, 4 cents. Newspapers and other printed matter, per two ounces, 1 cent ; samples of merchandise, not exceeding 4 ounces, 2 cents. If in excess of four ounces, one cent for each two ounces or fraction thereof. Registration fee on letters or packages, 8 cents in addition to the regular postage.

St. Louis Strike.—The St. Louis street car strike, which lasted eight weeks and ended June 1, 1900, resulted in no gain or advantage to employer or employed. It involved 3,500 strikers, with 10,500 persons dependent on them for support. Loss in wages to strikers, \$393,000 ; to others thrown out of employment, \$250,000. Loss to company in fares, \$1,380,000 ; in damage to property, \$20,000. Loss to city, \$150,000. Loss of trade, estimated at \$20,000,000. Number of persons shot, 84 ; killed, 16 ; made insane by strike, 2 ; suicide due to strike, 1.

XXXI. MISCELLANEOUS

SALARIES OF RULERS

Persia.....	\$30,000,000	Germany.....	\$1,000,000
Russia.....	10,000,000	Saxony.....	700,000
Siam.....	10,000,000	Portugal.....	600,000
Spain.....	3,900,000	Sweden.....	600,000
Italy.....	3,000,000	Brazil.....	600,000
Great Britain.....	3,000,000	France.....	200,000
Morocco.....	2,500,000	Hayti.....	240,000
Japan.....	2,300,000	United States.....	50,000
Egypt.....	1,575,000	Switzerland.....	3,000

COST OF ROYALTY IN ENGLAND

The Queen—Privy Purse.....	\$ 300,000
Household expenses and Sundries.....	1,625,000
	<hr/>
	\$1,925,000
Prince of Wales.....	200,000
Princess of Wales.....	50,000
Children of the Prince of Wales (in trust).....	180,000
Queen's Children—German Empress Frederick.....	40,000
Duke of Edinburgh.....	50 000
Princess Christian of Schleswig-Holstein.....	30,000
Princess Louise (Lorne).....	30,000
Duke of Connaught.....	125,000
Princess Beatrice (Battenberg).....	30,000
Duchess of Albany (daughter-in-law).....	30,000
Queen's Cousins—Duke of Cambridge.....	60,000
Duchess of Mecklenburg-Strelitz.....	15,000
Other Royal Pensions, together.....	125,305
	<hr/>
Total.....	\$2,890,305

Education.—More than forty per cent. of the people of Great Britain could not write their names when Queen Victoria ascended the throne. At the present time only seven per cent. of the population are in that condition.

Money in Circulation.—The amount of money in circulation in the United States on February 1, 1900, was \$2,003,149,355, the largest in the history of the country. *The per capita amount is \$25.98.*

ESTIMATED ANNUAL INCOME OF SOME OF AMERICA'S WEALTHIEST MEN

John D. Rockefeller.....	\$56,000,000	John H. Flagler.....	3,000,000
Andrew Carnegie.....	26,367,500	J. Pierpont Morgan.....	3,000,000
W. D. Clark.....	10,000,000	H. M. Flagler.....	2,250,000
J. M. Waldorf Astor.....	6,750,000	James J. Hill.....	2,000,000
Cornelius Vanderbilt est....	6,625,000	C. P. Huntington.....	1,750,000
William Rockefeller.....	5,000,000	George Gould.....	1,500,000
Marshall Field.....	5,000,000	John D. Archbold.....	1,250,000
John Jacob Astor.....	4,500,000	W. D. Sloane.....	2,000,000
B. Haggin.....	4,500,000	Russell Sage.....	1,000,000
D. Armour.....	3,000,000	D. O. Mills.....	1,000,000
J. A. Spreckles.....	3,000,000		

Andrew Carnegie's wealth is estimated at \$166,250,000. In the last twenty years he has given, chiefly toward the establishment of libraries, about \$20,000,000. In 1899 alone he gave \$5,000,000. His principal benefactions are :

Pittsburg Library and Art Gallery.....	\$3,000,000	Fifty free libraries.....	6,500,000
Pittsburg Carnegie Institute.	1,750,000	American Art.....	1,000,000
Various educational institu- tions.....	5,750,000	English and Scotch institution.	2,000,000
			<u>\$20,000,000</u>

Several American "Kings" have annual revenues exceeding those of the wealthiest potentates of the old world.

THE DEBTS OF THE LARGER NATIONS OF THE WORLD FOR 1899

France.....	\$5 970,065,000	Italy.....	\$2,482,814,812
Russia.....	4,759,437,000	United States.....	2,092,686,024
United Kingdom.....	3,323,819,000	Spain *.....	1,709,000,000
Austria-Hungary.....	2,574,378,500	German Empire.....	524,204,853

* The report of Spain is for 1898.

Debt per Capita.—The national debt per capita of the above countries is France, \$116.35; Russia, 10.70; Great Britain and Ireland, 87.79; Austria-Hungary, 70.84; Italy, 76.06; United States, 14.61; Spain, 71.85; German Empire, 57. While the debt per capita of the German Empire is very small, that of some of her dependencies is large, that of Hamburg being 94.85; Bremen, 104; Bavaria, 60.03; Würtemberg, 52.93; Lübeck, 43.10; Baden, 42.55; Saxony, 41.11; Prussia, 37.03. The largest public debts per capita are found among the dependencies of Great Britain, that of Queensland being 233.46; with Australia, 321.00; New Zealand, 298.01; New South Wales, 214.47.

THE PUBLIC DEBT

The Public Debt of the United States on January 1 of each year from 1791 to 1842, inclusive, and on July 1 of each year from 1843 to 1886, inclusive, and on December 1 of each year from 1887 to 1899, inclusive.

JAN. 1.	JAN. 1.	JULY 1.	JULY 1.
1791.. \$75,463,476.52	1840.. \$95,339,648.28	1846.. \$15,550,202.97	1874.. \$2,251,690,468.43
1792.. 72,171,924.66	1841.. 91,215,566.15	1847.. 35,826,534.77	1875.. 2,223,284,531.95
1793.. 86,335,654.04	1842.. 89,997,427.68	1848.. 47,044,881.23	1876.. 2,186,395,667.15
1794.. 76,337,404.77	1843.. 93,546,676.98	1849.. 63,061,858.69	1877.. 2,205,301,302.10
1795.. 86,747,597.39	1844.. 90,875,877.28	1850.. 63,452,773.55	1878.. 2,250,203,862.53
1796.. 83,702,172.07	1845.. 90,269,777.77	1851.. 68,304,796.02	1879.. 2,245,495,072.04
1797.. 82,664,479.33	1846.. 83,768,432.71	1852.. 66,169,341.71	1880.. 2,120,415,370.63
1798.. 79,228,539.12	1847.. 81,054,059.99	1853.. 59,263,117.70	1881.. 2,069,013,569.58
1799.. 76,408,669.77	1848.. 73,687,357.20	1854.. 42,242,222.42	1882.. 1,918,312,994.03
1800.. 82,976,294.35	1849.. 67,475,043.87	1855.. 35,586,858.56	1883.. 1,884,171,728.07
1801.. 83,038,050.80	1850.. 58,421,413.67	1856.. 31,972,537.90	1884.. 1,830,538,693.57
1802.. 86,712,612.25	1851.. 48,565,406.50	1857.. 28,699,831.85	1885.. 1,876,424,275.14
1803.. 77,054,686.30	1852.. 39,123,191.68	1858.. 44,911,881.03	1886.. 1,756,445,205.78
1804.. 86,427,120.88	1853.. 24,322,235.18	1859.. 58,496,837.88	DEC. 1.
1805.. 82,312,150.50	1854.. 47,699,082.08	1860.. 64,842,287.88	1857.. 1,664,461,536.38
1806.. 75,723,270.66	1855.. 37,813.05	1861.. 90,586,873.72	1858.. 1,680,917,706.23
1807.. 69,218,398.64	1856.. 336,957.83	1862.. 524,176,412.13	1859.. 1,617,972,419.53
1808.. 65,196,317.97	1857.. 330,124.07	1863.. 1,119,772,138.63	1860.. 1,549,296,126.48
1809.. 57,023,102.09	1858.. 10,434,221.14	1864.. 1,815,784,370.57	1861.. 1,546,961,695.61
1810.. 53,173,217.52	1859.. 3,573,343.82	1865.. 2,686,647,869.74	1862.. 1,563,612,455.63
1811.. 48,005,587.76	1860.. 5,250,875.54	1866.. 2,773,136,173.69	NOV. 1.
1812.. 45,209,737.90	1861.. 13,594,480.73	1867.. 2,678,126,103.87	1863.. 1,549,536,353.63
1813.. 55,062,837.57	1862.. 20,601,226.28	1868.. 2,611,687,851.19	1864.. 1,626,154,037.68
1814.. 81,487,866.24	JULY 1.	1869.. 2,586,452,213.94	1865.. 1,717,481,779.90
1815.. 99,833,693.15	1843.. 32,742,022.00	1870.. 2,486,672,437.81	1866.. 1,788,412,600.00
1816.. 127,834,933.76	1844.. 32,461,652.50	1871.. 2,353,211,332.32	1867.. 1,868,777,643.40
1817.. 153,467,169.56	1845.. 15,025,963.01	1872.. 2,353,251,358.78	1868.. 1,964,817,130.90
1818.. 193,466,633.83		1873.. 2,334,483,1993.20	1869.. 2,092,686,024.42

VALUABLE HORSES

TROTTERS SOLD AT \$20,000 OR OVER

Axtell.....	\$105,000	Gov. Sprague.....	\$27,500
Bell Boy.....	51,000	Patron.....	27,000
Steamboyl.....	50,000	Mascot.....	26,000
Sunol.....	40,000	Fearnaught.....	25,000
Acolyte.....	40,000	Jerome Eddy.....	25,000
Maud S.....	40,000	Wedgewood.....	25,000
Pocahontas.....	40,000	Geo. M. Patchen.....	25,000
Rarus.....	36,000	Happy Medium.....	25,500
Antevolo.....	35,000	Nutwood.....	22,000
Dexter.....	35,000	Sam Purdy.....	22,000
Goldsmith Maid.....	32,000	Starle.....	22,000
Smuggler.....	30,000	Edward Everett.....	20,000
Anteco.....	30,000	Edward.....	20,000
Blackwood.....	30,000	St. Julien.....	20,000
Jay Gould.....	30,000	Lady Maud.....	20,000
Lady Thorne.....	30,000	Socrates.....	20,000
Prince Wilkes.....	30,000	Constantine.....	20,000
Pancoast.....	28,000	Resalind.....	20,000

RUNNERS SOLD AT \$20,000 OR OVER

<i>In England</i>		<i>In America</i>	
Ormonde.....	\$75,000	Kentucky.....	\$40,000
Doncaster.....	70,000	King Thomas.....	40,000
Kangaroo.....	70,000	Dewdrop.....	29,500
Blair Athol.....	62,500	Brother of Bassett.....	25,000
Harvester.....	43,000	Vigil.....	25,000
Gladiator.....	35,000	Duke of Magenta.....	20,000
Isonomy.....	30,000	Ban Fox.....	20,000
Spinaway.....	27,500	Iroquois.....	20,000
Wheel of Fortune.....	25,000	Foxhall.....	20,000
Janette.....	21,000		
Cantiniere.....	20,500		
Louisburg.....	20,000		

The greatest event ever recorded in the horse market was the sale of Flying Fox, the Duke of Westminster's noted horse, at Kingsclere, Eng., March 8, 1900, for 37,600 guineas (about \$191,618). His grandsire, Ormonde was taken from England to California, where he was sold for \$150,000. In 1899, *Flying Fox* won over \$150,000, and wound up his *three-year-old career without suffering a defeat.*

STRIKES AND THEIR COST

The loss to wage earners during 13½ years (January 1, 1881 to July 1, 1894) was \$163,807,866. The loss to employers was \$82,590,386. The amount contributed by labor organizations to support the strikers was \$10,914,406. It will be observed that the loss to the strikers and to those that assisted them was much greater than the loss to the employers.

The number of strikes within the period above named was 14,390, in 69,167 establishments, and the number of persons thrown out of employment 3,714,406. About 44.49 per cent. of the strikes were successful, 11.25 per cent. were partially successful, and 44.26 per cent. failed.

HEIGHT OF SOME OF THE PROMINENT BUILDINGS OF NEW YORK CITY

Ivins Syndicate, 29 stories, top of roof, 309 ft. ; top of tower, 382 ft. ; St. Paul Building, 26 stories, 308 ft. ; American Surety Building, 23 stories, 306 ft. ; American Tract Society Building, 23 stories, 306 ft. ; Commercial Cable Building 21 stories, 255 ft. ; Pulitzer Building, 22 stories, extreme height, 375 ft. ; Bank of Commerce, 20 stories, 270 ft. ; O. B. Potter Trust Building, 20 stories, 293 ft. ; Bowling Green Building, 19 stories, 272 ft.

STATE FLOWERS

The following are the "State Flowers" as adopted by the *several States*. In Maine, Michigan, and Oklahoma Territory the decision was made by the Legislature, in the other cases by the votes of the scholars in the public schools.

Alabama, Goldenrod ; Arkansas, Aster ; California, California Poppy ; Colorado, Columbine ; Delaware, Peach-blossom ; Idaho, Syringa ; Iowa, Wild Rose ; Maine, Pine Cone and Tassel ; Michigan, Apple Blossom ; Minnesota, Moccasin Flower ; Missouri, Goldenrod ; Montana, Bitter-root ; Nebraska, Goldenrod ; New Jersey, (State tree, Maple) ; New York, Rose (State tree, Maple) ; N. Dakota, Goldenrod ; Oklahoma Territory, Mistletoe ; Oregon, Oregon Grape ; Rhode Island, Violet (State tree, Maple) ; Vermont, Red Clover ; Washington, Rhododendron. In Kansas, the Sunflower is usually known as the State flower.

COMPARATIVE SIZE OF THE ARK AND THE GREAT EASTERN

The cubit of the Bible, according to Sir Isaac Newton, is 20.625 inches. Bishop Wilkins makes the cubit 20.88 inches. According to Newton the dimensions of the ark were : Length between perpendiculars, 515.62 feet ; breadth, 84.94 feet ; depth, 51.56 feet ; keel, or length for tonnage, 464.08 feet. Tonnage, according to old law, 18,231. The measurements of the ark, according to Wilkins' calculations, were : 547 feet ; breadth, 91.16 ; depth, 54.70 feet ; keel, 492.31 feet. Tonnage, 21,761. The Great Eastern : Length, 680 feet ; breadth, 83 feet ; depth, 60 feet ; keel, 630 feet. Tonnage, 23,092. The Oceanic, of the White Star Line, has a length of 635 feet ; breadth, 68 feet ; depth, 44 feet ; gross tonnage, 17,040. Four vessels are now (1900) being built for the Oriental trade each to be 730 feet long, 74 feet in breadth, and 50 feet from water to deck lines, and will have a carrying capacity of 22,000 tons.

FAMOUS DESTRUCTIVE FIRES

New York, December, 1835—over five hundred buildings and \$20,000,000 worth of property destroyed : September 6, 1839, \$10,000,000 worth of property destroyed. Pittsburgh, April 10, 1845—one thousand buildings burnt ; loss, \$6,000,000. St. Louis, May 4, 1851—a large portion of the city burned ; loss, \$11,000,000. Portland, Me., July 4, 1866—almost entirely destroyed ; loss, \$15,000,000. Chicago, Ill., October 8-9, 1871—over 2,000 acres burnt ; estimated loss, \$195,000,000 ; July 14, 1874, another Chicago fire destroyed \$4,000,000 worth of property. Boston, Mass., November 9, 1872—nearly 450 buildings destroyed ; loss, over \$73,000,000. St. John, N. B., June 21, 1877—1650 dwellings destroyed ; loss, \$12,500,000. Pittsburg, 1877, caused by riots ; loss, \$3,260,000. Seattle, Wash., 1887—loss, \$20,000,000.

THE WEDDING ANNIVERSARY

Fifth year.....	Wooden Wedding
Tenth year.....	Tin Wedding
Fifteenth year.....	Crystal Wedding
Twentieth year.....	China Wedding
Twenty-fifth year.....	Silver Wedding
Thirtieth year.....	Pearl Wedding
Fortieth year.....	Ruby Wedding
Fiftieth year....	Golden Wedding
Seventy-fifth year.....	Diamond Wedding

FIRE LOSSES

The aggregate loss of property by fire in the United States from 1875-99 inclusive, was \$2,700,586,386. The aggregate

insurance losses for the same time were \$1,577,698,528. The year 1893 reached the high water mark, the losses being \$167,544,370. In no year since 1883 has the property loss been less than \$100,000,000.

A WOMAN'S CHANCE TO MARRY

- $\frac{1}{4}$ of 1 per cent., from 50 to 56 years of age.
- $\frac{3}{8}$ of 1 per cent., from 45 to 50 years of age.
- $2\frac{1}{2}$ per cent., from 40 to 45 years of age.
- $3\frac{3}{4}$ per cent., from 35 to 40 years of age.
- $15\frac{1}{2}$ per cent., from 30 to 35 years of age.
- 18 per cent., from 25 to 30 years of age.
- 52 per cent., from 20 to 25 years of age.
- $14\frac{1}{2}$ per cent., from 15 to 20 years of age.

OCEAN TRAVEL

A Knot.—In sailor phrase a knot is a nautical mile, and includes 6,087 feet, or nearly one and one-sixth statute miles. By United States surveyors' measure a mile includes 5,280 feet.

First Ocean Propeller.—The method of moving vessels by screw propulsion, was invented by Ericsson, in 1836, and was practically applied on the Great Britain, which made the trip from Liverpool to New York in 14 days 21 hours, in 1845.

First Steamer Crossing Ocean.—The Savannah, 380 tons, launched at Corlear's Hook, New York, in 1818, was the first vessel using steam to cross the ocean, the journey from Savannah to Liverpool being made in 1819 in 25 days, *using steam 18 days*. In 1838, the Great Western, 750 tons,

the largest steamer at that time, made the journey from Bristol, England, to New York, in 15 days, April, 1854, brought over 7 passengers, carried back 66 passengers, and made return trip in 14 days. Coal consumed on westward trip, 655 tons; consumed on return trip, 392 tons.

The Great Eastern.—Designed by Brunel, was begun at Millwall, London, in 1854, and was launched in 1859. It was 680 feet long, 83 feet broad, draught of 25 feet; had two screw engines of 4,000 horse-power, and paddle engine of 2,600 horse-power. Served in the laying of the Atlantic cable, but was unfitted for ocean use in competition with the more rapid sailing vessels, which made their journey less expensive. Was sold in 1887 for \$40,000, and was broken up.

LEGAL BREVITIES

A note dated on Sunday is void. A note obtained by fraud, or from one intoxicated, is void. If a note be lost or stolen, it does not release the maker; he must pay it. The endorsement of a note is exempt from liability, if not served with notice of its dishonor within twenty-four hours of non-payment. A note by a minor is void. Notes bear interest only when so stated. Principals are responsible for their agents. Each individual in partnership is responsible for the whole amount of the debts of the firm. Ignorance of the law excuses no one. It is a fraud to conceal a fraud. It is illegal to compound a felony. The law compels no one to do impossibilities. An agreement without consideration is void. Signatures in lead pencil are good in law. *A receipt for money is not legally conclusive. The acts of one partner bind all the others. Contracts made on Sunday are void.*

ot be enforced. A contract with a minor is void. A
ract made with a lunatic is void. Written contracts
erning land must be under seal.

DURABILITY OF DIFFERENT WOODS

periments have been made by driving sticks, of different
ls, each two feet long and one and one-half inches
re, into the ground, only one-half an inch projecting
e the surface. In five years, all those made of oak, elm,
fir, soft mahogany, and nearly every variety of pine,
totally rotten. Larch, hard pine and teak wood were
yed on the outside only ; while acacia, with the excep-
of being also slightly attacked on the exterior, was
rwise sound. Hard mahogany and cedar of Lebanon
in tolerably good condition ; but only Virginia cedar
found as good as when put in the ground. This is of
importance to builders, showing what wood should be
led, and what used in underground work.

ie durability of wood, when kept dry, is very great.
as still exist which are known to be 1,100 years old.
driven by the Romans prior to the Christian era, have
examined of late, and found perfectly sound, after an
ersion of nearly 2,000 years.

ie wood of some tools will last longer than the metals ;
spades, hoes and plows. In other tools the wood is
gone, as in wagons, wheelbarrows and machines. Such
l should be painted or oiled ; the paint not only looks
, but preserves the wood ; petroleum oil is as good as
other.

rdwood stumps decay in five or six years ; spruce

stumps decay in about the same time ; hemlock stumps in eight to nine years ; cedar, eight to nine years ; pine stumps never.

Cedar, oak, yellow pine and chestnut are the most durable woods in dry places.

RELATIVE HARDNESS OF WOODS

Shellbark hickory	100	Yellow oak	69
Pignut hickory	96	White elm	58
White oak	84	Hard maple	56
White ash	77	Red cedar	56
Dogwood	75	Wild cherry	55
Scrub oak	73	Yellow pine	54
White hazel	72	Chestnut	52
Apple tree	70	Yellow poplar	51
Red oak	69	Butternut	43
White beech	65	White birch	43
Black walnut	65	White pine	30
Black birch	62		

Timber intended for posts is rendered almost proof against rot by thorough seasoning, charring and immersion in hot coal tar.

Strength of Ice.—Ice two inches thick will bear men to walk on ; four inches thick will bear horses and riders ; six inches thick will bear teams with moderate loads ; eight inches thick will bear teams with very heavy loads ; ten inches thick will sustain a pressure of 1,000 pounds per square foot.

The Melody of Birds.—The melody of singing birds ranks as follows : The nightingale first, then the linnet, titlark, skylark and woodlark. The mocking bird has the *greatest* powers of imitation, the robin and goldfinch are *superior* in vigorous notes.

THE WORLD'S FAIRS

Where held	Year	Area Cov- ered *	Exhib- itors	Visitors †	Days Open	Receipts for Admission
		Acres				
London.....	1851	21	13,937	6,039,195	141	\$1,780,000
Paris.....	1855	24½	20,839	5,162,330	200	644,100
London.....	1862	23½	28,653	6,211,103	171	1,614,260
Paris.....	1867	37	50,226	8,805,969	217	2,103,675
Vienna.....	1873	40	50,000	6,740,500	186	1,032,385
Philadelphia.....	1876	60	30,864	10,164,489	159	3,813,724
Paris.....	1878	60	40,366	16,032,725	194	2,531,650
Sydney.....	1879	26	9,345	1,117,536	210	200,000
Melbourne.....	1880	.....	.....	1,330,279	210	.....
Fisheries Exhibition, Lon- don.....	1883	9	3,000	2,703,051	147	585,000
Health Exhibition, Lon- don.....	1884	.....	.....	4,153,390	151	892,545
Inventions Exhibition, London.....	1885	.....	.....	3,760,581	163	750,000
Colonial and Indian, Lon- don.....	1886	13	.....	5,550,745	164	1,025,000
Glasgow.....	1888	.....	.....	5,748,379	161	566,330
Paris.....	1889	75½	55,000	28,149,353	185	8,300,000
Chicago.....	1893	633	.....	27,539,521	184	14,000,000
Paris.....	1900	.....	.....	.....	.....	.....

* Buildings and covered structures.

† The largest number of visitors in any one day was 400,000 in Paris, in 1889, and 716,881 in Chicago, in 1893.

Other International and National Expositions in prospect are : Buffalo, N. Y., 1901, Pan American Exposition ; Glasgow, Scotland, 1901, International Exhibition ; Detroit, Michigan, 1901, International Bi-Centenary Exposition ; Toledo, Ohio, 1902, Ohio Centennial and Northwest Territory Exposition ; and St. Louis, Mo., 1903, St. Louis Exposition to commemorate the purchase of the Louisiana Territory.

Valuable Discovery.—On August 8, 1900, announcement was made that Prof. H. V. Hilprecht, of the University of Pennsylvania, and head of the expedition to Nippur,

had discovered the library of the Great Temple, with over 17,000 tablets, dealing with historical and literary matters, none of them of later date than 2280 B.C.

Ages of Animals.—Elephant, 100 years and upward; rhinoceros, 20; camel, 100; lion, 25 to 70; tigers, leopards jaguars and hyenas (in confinement) about 25 years; beavers 50 years; deer, 20; wolf, 20; fox, 14 to 16; llamas, 15; chamois, 25; monkeys and baboons, 16 to 18; hare, 8; squirrel, 7; rabbit, 7; swine, 25; stag, under 50; horse, 30; ass, 30; sheep, under 10; cow, 20; ox, 30; swans, parrots and ravens, 200; eagle, 100; geese, 80; hens and pigeons, 10 to 16; hawks, 36 to 40; cranes, 24; blackbird, 10 to 12; peacock, 20; pelican, 40 to 50; thrush, 8 to 10; wren 2 to 3; nightingale, 15; blackcap, 15; linnet, 14 to 23; goldfinch, 20 to 24; redbreast, 10 to 12; skylark, 10 to 30; titlark, 5 to 6; chaffinch, 20 to 24; starling, 10 to 12; carp, 70 to 150; pike, 30 to 40; salmon, 16; codfish, 14 to 17; eel, 10; crocodile, 100; tortoise, 100 to 200; whale, estimated 1,000; queen bees live 4 years, drones, 4 months, working bees, 6 months.

Periods of Gestation.—In the horse and ass are about the same, or 11 months each; camel, 12 months; elephant, 2 years; lion, 5 months; buffalo, 12 months; in the human female, 9 months; cow, 9 months; sheep, 5 months; dog, 9 weeks; cat, 8 weeks; sow, 16 weeks; she-wolf, from 90 to 95 days. The goose sits 30 days; swans, 42; hens, 21; ducks, 30; peahens and turkeys, 28; canaries, 14; pigeons, 14; parrots, 40.

The mean heat of the human body is 98 degrees, and of the *skin* 90 degrees. Tea and coffee are usually drunk at 110 degrees.

NUMBER OF YEARS SEEDS RETAIN THEIR VITALITY.

Vegetables:	Years	Vegetables:	Years
Artichoke	5 to 6	Melon	8 to 10
Asparagus	2 to 3	Mustard	3 to 4
Beans	2 to 3	Okra	3 to 4
Beets	3 to 4	Onion	2 to 3
Broccoli	5 to 6	Pea	5 to 6
Cucumber	8 to 10	Pumpkin	8 to 10
Cauliflower	5 to 6	Parsley	2 to 3
Cress	3 to 4	Parsnip	2 to 4
Carrots	2 to 3	Pepper	2 to 3
Celery	2 to 3	Rhubarb	3 to 4
Corn (on cob)	2 to 3	Squash	8 to 10
Endive	5 to 6	Spinach	3 to 4
Egg Plant	1 to 2	Turnip	3 to 6
Leek	2 to 3	Tomato	2 to 3
Lettuce	3 to 4		

WORTH KNOWING

There are 2,754 languages.

A square mile contains 640 acres.

A barrel of rice weighs 600 pounds.

A barrel of flour weighs 196 pounds.

A barrel of pork weighs 200 pounds.

A firkin of butter weighs 56 pounds.

A span is ten and seven-eighth inches.

A hand (horse measure) is four inches.

Space has a temperature of 200 degrees below zero.

Robert Bonner refused \$100,000, for the famous trotter

Maud S.

Until 1776 cotton-spinning was performed by the hand-spinning wheel.

The cost of coal burned by an ocean steamer on a trip will average \$13,000.

Measure 209 feet on each side and you will have within an inch of a square acre.

The sun is 92,500,000 miles from the earth. The latter receives only one-two-billionth of the solar heat.

The nearest fixed star is 16,000,000,000 miles distant, and it takes three years for its light to reach the earth.

The smallest coin now current in Europe is the Greek lepton, made of copper, and worth about one-fifth of a cent.

Nine men constitute a jury in Mexico, and a majority gives the verdict. If the jury is unanimous there can be no appeal.

The Bank of England destroys about 350,000 of its notes each week, to replace them with new ones.

Eighty-two per cent. of American families employ in domestic help not even one servant.

Ninety per cent. of American women spend less than \$50 a year for clothing.

The Japanese railways have introduced newspaper reading cars on some of their passenger trains.

American shops turned out 2,473 locomotives in 1899—the largest number they ever manufactured in one year. More than 25 per cent. of the number were made for railway companies in other countries.

The greatest banquet in history took place August 18, 1889, when the 40,000 Mayors of France sat at a table in the Palais de l'Industrie in Paris. There were three relays of about 13,000 guests each. To prepare the feast required 75 chief cooks, 13,000 waiters, scullions, cellarmen and helpers, 80,000 plates, 52,000 glasses, knives, forks and spoons in proportion, 40,000 rolls, and fish, meat and fowl by the ton. The banquet was part of the centenary celebration of the events of 1789.

The longest year on record was 47 B. C. By order

us Cæsar, it contained 445 days in order to make the
sons conform to the solar year.

he largest stockyards in the world are in Chicago. The
ds contain 20 miles of streets, 20 miles of water troughs,
niles of feeding troughs and 75 miles of water and drain-
troughs. The yards are capable of receiving and ac-
commodating daily 20,000 cattle, 20,000 sheep and 120,000
s. The combined plants represent an investment of over
000,000.

he English language contains 260,000 words ; the Ger-
1, 80,000 ; the Italian 75,000, the French 30,000 ; the
kish 22,500 ; the Spanish 20,000.

ix Vice-Presidents of the United States have died while
office. George Clinton, died April 20, 1812 ; Elbridge
ry, November 23, 1814 ; William Rufus King, April 18,
3 ; Henry Wilson, November 22, 1875 ; Thomas A. Hen-
ks, November 25, 1885, and Garrett A. Hobart, November
1899.

t the door of the old English coffee houses was a box made
ally of brass, with lock and key. It had engraved upon
ie letters "T. I. P." "To insure promptness." Cus-
ers, as they passed out, dropped a coin in for the waiters.
ice the word "Tip."

ach year 1,860 tons of orange flowers, 930 tons of roses,
tons each of violets and jasmine, 75 tons of tuberoses, 30
s of cassia and 15 tons of jonquils are used for making
umes.

he oldest tree in the world is on the island of Kos, lying
the Coast of Asia Minor. The trunk is thirty feet in cir-
ference. A wall of masonry surrounds it and supports

the two main branches. It is believed to be more than 2,000 years old.

The motto "In God We Trust" stamped on the two-cent piece in 1864, was the first use of the word "God" in any Government act. The use of the motto "E Pluribus Unum" on coins never was authorized by law.

An American spends, on an average, \$50 a year for food, a Frenchman \$48, a German \$45, a Russian \$40, a Spaniard \$33, and an Italian \$24. The American eats 109 pounds of meat a year, the Frenchman 87, the German 64, the Russian 51, and the Italian 28. The American consumes 380 pounds of bread, the Italian 400, the Spaniard 480, the Frenchman 540, the German 560, and the Russian 655 pounds per year.

It is not generally known that John Billington, one of the Pilgrim Fathers, in 1630, was found guilty of murder and executed. This is believed to have been the first legal execution by white men in America.

The greatest ocean depth yet discovered is 33,000 feet, near the Ladrone Islands in the Pacific Ocean.

The ocean, it is estimated, contains 7,000,000 cubic miles of salt.

A person breathes 2,600 gallons of air daily, weighing 34 pounds, or six times the average weight of food and drink consumed.

The deepest wells in the world are at Spereberg, near Berlin, 4,190 feet; St. Louis, Missouri, 3,843 feet; Pesth, Hungary, 3,182; La Chapelle, Paris, 2,950; Columbus, Ohio, 2,775 feet; Nensalwerk, near Minden, 2,288 feet; Louisville, 2,086 feet, Grenelle, Paris, 1,798; Kissingen, Bavaria, 1,787 feet; Passy, France, 2,000 feet; and at Charleston, S. C., 1,250 feet.

France has one soldier to every 15 inhabitants ; Germany one to every 17 inhabitants ; Great Britain one to every 72 inhabitants ; and the United States one to every 791 inhabitants.

There are 2,000,000 more women than men in England.

Tourists spend over \$60,000,000 a year in Italy.

The beer consumed in one year throughout the world would fill a lake $3\frac{1}{2}$ miles long, 1 mile wide, and 6 feet deep.

Milk is useful in extinguishing burning petroleum.

Bobolinks rear their young on the shores of Lake Winnipeg, Canada, and spend the winter in Cuba and Porto Rico. The kingbird lays its eggs as far north as the fifty-seventh degree of latitude, and is found in South America in the winter. The semi-annual pilgrimages of these and other birds exceed one-fifth of the circumference of the globe.

The latest census reports for England and Wales give the number of Smiths 253,606 ; of Joneses, 242,100, with the names of Williams, Taylor, Davies and Brown following in order. In Scotland, Smith leads, followed by McDonald, Brown, Thomson, Robertson, Stewart and Campbell. The name of Murphy leads in Ireland, with 62,600 ; followed by Kelly, 55,900 ; Sullivan, 43,600 ; Walsh, 41,700 ; Smith 7,000 ; O'Brien, 33,400 ; Byrne, 33,000 ; Ryan, 32,000 ; Connor, 31,200 ; O'Neil, 29,100 ; and Reilly, 29,000.

Railway plans were drawn by William James, of Warwickshire, as early as 1799 ; surveys were made in Lancashire in 1802 ; a line was projected from Stratford-on-Avon to Toton-on-the-Marsh in 1819, a part of which was actually built ; and in 1821 the first railway company in England, the Liverpool and Manchester, was organized.

Electro-magnets capable of lifting 4,000 pounds are used

for raising and moving hot iron plates and pieces of heavy machinery. At the Woolwich Arsenal, England, they are employed in raising heavy projectiles. The work is accomplished more easily and expeditiously than by the use of the chain and hook.

The population of Greater New York, census of 1900, is 3,437,202. The enlargement of her territory on January 1, 1898, makes it difficult to show the exact increase over 1890, but the approximate increase for the decade is 37.90 per cent. The increase of Brooklyn is 39.12 per cent. The population of the five boroughs comprising Greater New York is : Manhattan, 1,850,093 ; Bronx, 200,507 ; Brooklyn, 1,666,582 ; Richmond, 67,021 ; Queens, 152,999. Chicago shows a population of 1,698,575, a gain in the last decade of 54.44 per cent. In the previous decade her gain was 118.58 per cent. The population of Philadelphia is 1,293,697, an increase of 23.57 per cent. The number of separate dwelling houses in Philadelphia is 258,685. The population of Buffalo is 352,219, showing an increase of 37.77 per cent. The population of Cincinnati is 325,902 ; increase, 9.77 per cent.

The area of London, metropolitan district, is 688 square miles ; New York, 306.01 ; Chicago, 180.12 ; Philadelphia, 129.33.

The foreign commerce of the United States for the fiscal year ending June 30, 1900, was \$2,244,193,543, an increase over 1899 of \$320,000,000. The imports of the year increased \$152,000,000, two-thirds of which were in manufacturers' materials ; and the exports increased 167,000,000, of which one-half was in manufactured articles.

The pulse of an adult in good health beats from 70 to 75 times in a minute ; of a child, from 80 to 100 times, and

new-born babe, from 125 to 140 times. Health, exercise, and surrounding conditions of the temperature modify the action of the heart, and consequently of the pulse. The pulse of a man beats about 10 strokes per minute more while standing than in a sitting or recumbent position ; of a female, about seven times more. The pulse of a man six feet tall usually beats three or four strokes less per minute than the pulse of one who is $5\frac{1}{2}$ feet tall. The normal temperature of a man in health is 98.6 degrees Fahrenheit, measured under the tongue or under the arm.

The rainfall at Birmingham, Alabama, from April 1 to June 24, 1900, was 24.92 inches. The annual rainfall of the place is 45 inches.

In a thirty-mile bicycle race between Archie McEachern and Johnny Nelson, at Woodside Park, Philadelphia, August 11, 1900, several world's records were broken. McEachern made the first mile in 1 m. 47 1-5 s. ; the second mile in 1 m. 29 2-5 s., completing the two miles in 3 m. 16 3-5 s. At this point his wheel broke down, and his rival made a lap and a half before he secured another wheel. Nelson completed five miles in 7 m. 53 s. ; ten miles in 15 m. 37 2-5 s. ; fifteen miles in 23 m. 27 3-5 s. ; twenty miles in 31 m. 34 1-5 s. ; twenty-five miles in 39 m. 54 2-5 s. ; and finished the race of thirty miles in the unprecedented time of 48 m. 4 2-5 s.

The Kaiser Wilhelm der Grosse, of the North German Lloyd line, in August, 1900, made the trip from New York to Cherbourg in 5 days, 19 hours, 44 minutes, an average speed of 22.61 knots per hour. The more powerful Deutschland, of the Hamburg-American line, with her 16,500 tonnage, and her 35,000 horsepower, covered the route from New York to Plymouth, 3,072 nautical miles, in 5 days, 11

hours, 45 minutes, making an average speed of 23.32 knots an hour. The Minneapolis, widely heralded as the fastest commerce destroyer in the world, made during her trial trip of four hours, under the most favorable conditions, an average speed of 23.05 knots.

The fastest official time for schedule trips of any regular train service in the world is that between Philadelphia and Atlantic City, on the Philadelphia and Reading Railway, the average speed being 70 miles per hour. On several special occasions average speed was increased to 80 miles per hour.

One of the most destructive fires of modern times occurred at Hoboken, N. J., on June 30, 1900, involving the loss of 215 human lives, and a property loss of upwards of \$10,000,000, including the entire destruction of the large ocean vessels, the Thain, the Bremen, and the Saale, together with their cargoes, piers, and warehouses. Over 250 persons who were badly burned, were treated in the hospitals, and more than 1,000 others who jumped from the vessels and piers into the river, were picked up by tugs and small boats and saved from drowning.

INDEX

	PAGE
Acidity of stomach.....	19
Acid stains , to remove.....	198
Acreage of wheat.....	53
corn.....	53
Acre , dimensions of.....	167
square, dimensions of.....	217
Age of a person, how to tell.....	161
Ages of animals.....	216
Agreements , notes, contracts.....	212
Air-line distances from Washington to various cities of the world.....	135
Air-pump invented.....	151
Air , quantity and weight breathed daily.....	220
Almanacs first printed.....	150
Almond bag, how to prepare.....	118
Almond oil.....	118
Amateur and professional walkers compared.....	83
Ambassadors to foreign countries, salaries.....	149
American cities, fictitious names of.....	131
American turf.....	79
Amount of money in circulation in the United States..	204
Ancient library discovered.....	215
Anesthesia discovered.....	152

	PAGE
Animals, ages of	216
farm	54
Annual income of wealthy Americans	205
increase of the world's population	97
rainfall	56
Anthracite coal, weight of bushel in different States ..	168
Antidote for snake bites	11
Ants, to keep from plants	103
Aphis, to destroy	101
Apoplexy, to relieve	13
Arctic explorers, names of and highest point reached ..	146
Area, Indian reservations	74
of the world by countries	59, 63
Areas of large cities	222
of the colonial possessions of the United States ..	72
of the States and Territories	71
Ark and the Great Eastern	209
Army officers, salaries	149
Army, proportion of, to population, in various nations ..	221
Arrowroot, to prepare	183
Asthma, to relieve	24
Average temperature of the human body	216
time required for digestion	185
velocities	42
Avoid small print	16
Baked milk as nourishment	179
Balloon ascension first made	151
Bankers' Calendar	155
<i>Bank of England, notes destroyed weekly</i>	<i>218</i>

Index

227

	PAGE
iquet, greatest in history.....	219
ley, weight of bushel in different States.....	168
renness.....	95
eball.....	86, 87
h, the.....	115
ns, weight of bushel in different States.....	168
l, how to air.....	114
lroom, care of.....	114
importance of cleanliness.....	114
to secure ventilation.....	114
ls, when damp, how to correct.....	114
f tea, to make.....	182, 183
r, percentage of alcohol.....	51
production of the world.....	50
quantity consumed annually.....	221
ls on shipboard.....	154
l, the largest.....	76
quests to libraries.....	205
ycle racing.....	85, 86, 225
ycling.....	85, 86, 223
gest things.....	174-178
d cages.....	100
seed.....	100
ds, diseases and treatment.....	99
migration of.....	221
the singers.....	214
th rate, by countries.....	95
per minute.....	97
e of a dog.....	14
of snake.....	14

	PAGE
Bite of venomous animals or insects, to relieve.....	14
Blacking, how to make waterproof.....	112
Black lace, how to wash.....	120
Black silk, to sponge.....	120
Bleeding, artery.....	8
nose.....	9
scalp.....	9
to stop.....	9
Bloat in cattle, to relieve.....	1
Blood, amount distributed by the heart....	18
Blue grass seed, weight of bushel in different States....	10
Boat races.....	87
Boat upset.....	
Boiling point.....	1
Boils, how to treat.....	1
Boots or shoes, to soften.....	12
to render waterproof.....	127
Borax for the bath.....	115
Bottles, to clean.....	192, 193
Brass, to clean.....	187
Bread, poor, causes of.....	122
Breathing, quantity of air used daily.....	220
rate of pulse and.....	181
Breweries, total number.....	50
Bridges, remarkable.....	174, 175
Brittle finger-nails.....	117
Bronze, to polish.....	187
Brooms, care of.....	194
Bruises, to relieve.....	13
Buckwheat, weight of bushel in different States.....	168

	PAGE
Buildings, highest in New York City	208
Burns, remedy for	13
to relieve.....	14
Bushel, weight of in different States ..	168
Business men's convenient calendar	155
Butter produced in the United States	54
Butter, to preserve	122
Cages for birds	100
Calendar for quickly calculating time	155
of the centuries.....	156, 157
Calicoes, to set color in washing	120
Canals of the United States :	
Cost of construction.....	30, 31
Depth.....	30, 31
Length.....	30, 31
Location.....	30, 31
Number of locks.....	30, 31
When built.....	30, 31
Canaries, diseases and treatment	100
Candidates for President of the United States	140
Candle, how to prepare so that it will not blow out	113
Canker, how to cure	178
Capacity, measures of :	
Cubic Measure.....	164
Dry Measure.....	164
Liquid Measure.....	164
Capacity of a freight car	167
of cisterns.....	174
<i>and name of the largest churches</i>	178

	PAGE
Capitals of different countries.....	59-63
of the States and Territories.....	71
Capital Punishment.....	96
Care and treatment of House Plants.....	100
Care of furs.....	127
of house animals.....	98
of lamps.....	199, 200
of sponges.....	117
of the teeth.....	116
Car, freight, capacity of.....	167
Carpets, to clean and freshen.....	192, 194
Car strike, St. Louis.....	203
Cashmere, to renew.....	125
Cats, diseases and treatment.....	99
to rid of fleas.....	106
Cavern, the biggest.....	177
Cemeteries, National.....	144
Centenarians in the United States.....	98
Center of population of the United States.....	74
Chance to marry, woman's.....	24
Chapped hands, remedy for.....	24
Cheese, product and value.....	54
Chicken-pox, symptoms of.....	180, 181
Chickens, diseases, how to treat ..	107
Chilblains, to relieve.....	15
Children, diseases of.....	178-182
Chimneys, for lamps.....	200
China wedding.....	210
Choking, to relieve.....	14
Cholera infantum, to treat.....	178

	PAGE
Christianity, churches and adherents.....	75
Churches, the largest.....	178
and adherents.....	75
Cinder in the eye.....	10
Circulation, pulse beats, in childhood and manhood....	223
Cisterns, size and capacity.....	174
Civil War, soldiers called.....	144
Classification of mail matter.....	201
Cleanliness for Plants.....	101
Climbing.....	92
Clinkers, how to loosen.....	112
Closet floors.....	195
Clothing of American women, annual cost of.....	218
Clothing on fire.....	8, 9
Clothes, to disinfect.....	127
to remove the odor of.....	125
to whiten.....	121
Clover seed, weight of bushel in different States.....	168
Coaches first used in England.....	150
Coal :	
Areas of different countries.....	51
Production of different countries.....	52
Cannel coal.....	52
consumed on an ocean voyage.....	217
Coffee, its production and consumption by countries....	55
Coinage of the United States mints, 1792-1899 :	
Gold coins.....	48
Silver coins.....	48
Nickel coins.....	48
Copper coins.....	48

	PAGE
Coinage of the United States mints, 1792-1899.— <i>Cont'd.</i> :	
Bronze coins.....	48
of the world in 1898.....	47
Coins, first American.....	70
foreign, values of.....	172, 173
smallest European.....	218
Cold cream as a wash.....	115
Cold feet.....	19, 184
Cold, how to treat.....	15
in the head.....	15
Colds, to prevent.....	24
Colleges.....	45
College fraternities.....	46
Colleges in the United States, number of professors and students.....	75
Colonial possessions of the United States, areas.....	72
Colonies of different countries.....	59-63
Colored table-cloth to wash.....	119
Colors, how to restore.....	116
Columbian souvenir coins.....	48
Combs, to polish.....	117
Commerce of the United States, foreign, for 1900.....	222
Comparative statistics of railroads in the United States..	28
Complexion, to preserve.....	116
Compound interest tables.....	167
Confederate money, its value.....	47
Consciousness, to restore.....	9
Consumption, death rate, by countries.....	96
Contagious diseases.....	180, 181
<i>Contracts, notes, agreements.....</i>	<i>222</i>

	PAGE
Convulsions, how to treat.....	178
Cooking, how to measure ingredients.....	165
Copper bottoms first applied to ships.....	152
Copper, to clean.....	187
Corn crop of the United States.....	53
in crib, how to measure.....	169
shrinkage.....	169
weight of bushel in different States.....	168
Corns, cure for.....	17
Cornmeal, weight of bushel in different States.....	168
Cost of :	
canal construction.....	30, 31
clothing of American women.....	218
palace car.....	29
passenger car.....	29
royalty in England.....	204
strikes.....	208
the Civil War.....	142
Cows, milch, number and value.....	54
Creaking hinges, to prevent.....	195
Croquet-Roque.....	90
Croup, how to treat.....	179
Crude petroleum.....	51
Crumb cloth, how to make.....	112
Crystal wedding.....	210
Cure for corns.....	17
for headache.....	20
Cuts and wounds.....	17
Cut flowers, to keep fresh.....	102, 104

	PAGE
Daily newspaper first appeared	151
Dairy products.....	54
Damp beds, how to correct.....	114
Dandruff, to remove.....	117
Day, sidereal, apparent solar, mean solar.....	152
Death by Electrocution, in what States.....	97
by hanging, where forbidden.....	97
Death rate, of consumption, by countries.....	96
per minute.....	97
Deaths of Vice-Presidents of the United States.....	219
Debt of the larger nations of the world.....	205
of the United States, annual statement.....	206
per capita of different countries.....	205
Decline in the value of confederate money.....	47
Deepest wells.....	220
Density of population.....	59-63
Dental colleges, professors and students.....	75
Department of agriculture, salaries.....	148
of justice, salaries.....	148
Desert, the largest.....	178
Destructive fires.....	210, 224
plagues since 1300.....	96
Diamonds, value of.....	17
Diamond wedding.....	210
Digestion, average time required for different meats and vegetables.....	185
Dimensions of an acre.....	167
Diphtheria, how to treat.....	179
symptoms of.....	180
<i>Diplomatic appointments, salaries</i>	180

	PAGE
Disadvantage of wearing silk hats.....	24
Discovery of ancient library.....	215
Discus throwing.....	91
Diseases of children.....	178-182
of dogs, cats, and birds.....	99, 100
Disinfection of clothing.....	127
Distances from Washington to various cities of the world.....	135
Distance that objects may be seen at sea level.....	73, 180
to the sun, to the nearest fixed star.....	218
Distemper in dogs and cats.....	99
Divisions of time.....	152
of standard time.....	154
Dogs, diseases and treatment.....	99
to rid of fleas.....	106
Domestic mail matter.....	201
Domestic service in America.....	218
Don Quixote written by Cervantes.....	150
Drainage for plants.....	101
Dried apples, weight of bushel in different States.	168
fruit, to preserve.....	121
Drop letters.....	201
Drowning.....	7, 12
Durability of different woods.....	213
Parache, remedy for.....	18, 184
Early census of the United States.....	66
railways.....	221
schools and colleges.....	45
Bars, to relieve when frozen.....	15

Ears, to remove any foreign substance from.....	
Easy cure for hiccoughs.....	
Education in the United States.....	
Colleges.....	
Professional schools.....	
Number of professors and instructors.....	
of students.....	
of teachers employed.....	
Public school enrolment.....	
Egg lemonade, to prepare.....	1
Egg stains, to remove.....	1
Eggs, to preserve.....	1
Electoral votes of the several States.....	
and popular votes for Presidents.....	1
Electric lighting :	
Capital invested in New York.....	
In the United States.....	
Electro-magnets, powerful.....	2
Emetics.....	
England, cost of royalty.....	2
English-speaking religious communities of the world...	
Envelopes first used.....	1
Epileptic fit, to check.....	
E Pluribus Unum, not authorized on coins.....	2
Eruptions of face, to cure ..	
Estimates of population prior to 1790.....	
Excellent remedy for sore throat.....	
Exhibitions, World's.....	2
Expositions, national and international.....	2
Exposure for Plants.....	1

Index

237

	PAGE
Extremes of heat and cold.....	57
Eye, to remove any foreign substance.....	10
Eyes, to preserve the.....	16
Face eruptions, to cure.....	24
Faded stockings, to restore... ..	127
Fainting, to restore to consciousness.....	10
Fairs, World's.....	215
Famous trotters.....	78-81
Farm animals in the United States, in 1899 :	
Horses, number and value.....	54
Mules, " " "	54
Milch Cows, number and value.....	54
Oxen, " " "	54
Sheep, " " "	54
Swine, " " "	54
Farms in the United States, number, acreage, and value of products.....	54
Fast horses.....	78-81
ocean travel.....	223
railroad runs	224
Fatigue, to prevent.....	25
Featherbeds, how to clean.....	114
Feet, perspiring.....	20
Feet, remedy for offensive.....	17
what to do when cold or frosted.. ..	19
Fermentation, to treat.....	124
Ferns, to grow indoors.....	102
Fictitious names of cities.....	131, 133
of States.....	139

	PAGE
Filling lamps.....	200
Finger-nails, to cure when brittle.....	117
Fire, clothing on.....	8
from coal oil.....	9, 221
losses.....	210
to escape from a house on.....	11
Fires, great.....	210
First-class mail matter.....	201
First American coins.....	70
coach brought to Scotland.....	150
discoveries and inventions.....	150-152
legal execution in America.....	220
ocean propeller.....	211
railroads.....	221
steamboat to cross the ocean.....	211
Fisheries of the United States.....	54
Fish, how to boil.....	108
to preserve.....	123
Fit, to check an epileptic.....	9
Flag, United States, when adopted.....	145
Flannel, health value of.....	121
to prevent shrinking.....	20
how to wash.....	118
Flat-irons, how to take care of.....	120
Flaxseed, weight of bushel in different States.....	168
lemonade, to prepare.....	183
Fleas on dogs and cats.....	99
Floors, to clean, polish, stain and paint.....	190
Flour, how to brown.....	109
how to select.....	109, 110

Index

239

	PAGE
ar, to preserve	122
wers, adopted as State flowers.....	208
consumed in making perfumes.....	219
d, average annual amount consumed, and cost per man by different nations.....	220
for birds.....	100
tball records.....	94
eign cities, fictitious names of.....	133
coins, values of.....	172, 173
commerce of the United States for 1900.....	222
countries, rates of postage.....	202
money orders.....	202
m of government of various countries.....	59-63
tress, the greatest.....	176
rth-class mail matter.....	202
nciscans arrived in England.....	150
ternities, Greek letter.....	46
eizing point.....	25
ight car, capacity of.....	167
sh meat, to preserve.....	123
shmen Eights, boat races.....	89
st bite, to relieve.....	15
st-bitten plants.....	103
sted feet.....	19
it, dried, to preserve.....	121
it, wine, medicine, or milk stains, to remove...	197, 198
niture, to clean and polish.....	124, 190, 195
s, care of.....	127
ing point.....	25

	PAGE
Game , to preserve from taint.....	123
Gapes in chickens.....	107
German measles.....	180
Gestation, periods of.....	216
Gilt frames, how to restore and polish.....	187, 188
Glass factory first built in the United States.....	151
globes, to clean.....	189
how to sever.....	191
mirrors first made.....	150
stoppers, how to loosen.....	112
Glove championship.....	94
Gloves, to cleanse ...	126
Glue, to prepare.....	124
Goitre	96
Gold discovered in California.....	152
produced in the United States.....	46
trinkets, to clean.....	191
Golden wedding.....	210
Gout, remedy for.....	15
Government of different countries.....	59-63
Governments of the world :	
Monarchies, absolute.....	44
limited.....	44
Republics.....	45
Governors, salaries.....	71
Grates, to polish.....	187
Gregorian year, length of.....	153
Grease, to remove from cloth, linen, silk, books.....	198
spots, how to kill before painting	198
<i>Great Eastern</i> , when built, size, etc	212

Index

241

	PAGE
Great Eastern and the Ark, compared.....	209
Greatest banquet in history.....	218
ocean depth.....	32, 220
rainfall.....	57
Greek letter societies.....	46
Grenadine, to freshen.....	125
Griddles, to clean.....	194
Growth of railways in the United States.....	27
of telegraphy.....	37
of the English language.....	45
• Hair , how to cleanse.....	115, 116
brushes, to cleanse.....	117
to prevent loss of.....	117
• Hammer throwing.....	90
Hams, to preserve.....	123
Hand, length of.....	217
Hands, chapped, remedy for.....	24
Hardness of different woods.....	214
Hartshorn, its cleansing properties.....	116
Harvest time in different countries.....	170
Hay crop.....	53
Hay, how to measure.....	169
Headache, remedy for.....	20
Heart action of men, women and children.....	223
Heart-beats.....	181
Heartburn, remedy for.....	20
Hiccoughs, remedy for.....	20
Highest and lowest prices for wheat.....	170
<i>Highest buildings in New York City.....</i>	<i>208</i>

Highest mountains in the world.....	.
temperatures.....	.
volcano, lighthouse.....	- 1;
Hinges, to prevent from creaking.....	- 195
Hints for the sickroom.....	- 184
on papering.....	- 194
Hog products :	
Packed at different cities.....	52
Countries to which exported.....	53
Hoisting by electro-magnets.....	221
Holidays in the several States.....	158
Homeopathy introduced into England.....	151
Honey as medicine.....	182
Horn, to polish.....	189
Horse-power, its meaning.....	34
railroad, first built.....	151
Horses' feet, to prevent from balling.....	111
Horses, number and value.....	54
of great value.....	207, 217
House animals, care of :	
Dogs :	
Bruises.....	98
Distemper.....	98
Diarrhoea.....	98
Sore eyes.....	98
Sore ears.....	98
Sore mouth.....	98
Fits.....	99
Fleas.....	99
Lice.....	99

Dogs :

Mange.....	99
Dog soaps	99
Dog kennels.....	99

Cats.....	100
-----------	-----

Canaries :

Asthma.....	99
Baldness	99
Costiveness.....	99
Diarrhoea.....	99
Huskiness.....	99
Loss of voice.....	99
Molting.....	99
Pip ..	99
Bird seed.....	100
Bird cages.....	100
Insects.....	100

Mocking birds.....	100
--------------------	-----

House on fire, to escape from.....	11
------------------------------------	----

House pests, to get rid of :

Ants.....	106
Bed bugs.....	106
Cockroaches	106
Fleas	106, 107
Flies.....	105
Mice.....	105
Mosquitoes.....	105
Moths.....	106

Rats.....	108
-----------	-----

	PAGE
House plants, care and treatment :	
Soil.....	100
Repotting.....	100
Watering.....	101
Drainage.....	101
Exposure.....	101
Cleanliness.....	101
Shapeliness ..	101
Insects.....	101
Rest.....	102
Window boxes.....	102
Fresh flowers.....	102
Ferns.....	102
Frost-bitten plants.....	103
To preserve from ants.....	103
To preserve from slugs and snails	103
Gardening in winter.....	103
Cut flowers	104
Soot on plants.....	104
Natural flowers....	104
To destroy woodlice.....	105
How and when the Presidents of the United States died.	137
to affix postage stamps.....	111
to air the bed	114
to boil meat.....	108
fish.....	108
potatoes.....	109
to brown flour	109
to clean brushes and combs.....	116
featherbeds.....	114

	PAGE
How to clean furniture.....	124
to cleanse hair brushes.....	117
gloves.....	126
the hair.....	115
to correct damp beds.....	114
to cure canker....	178
to drive away moth.....	196
to dye silk or satin.....	126
to forecast the weather.....	57
to freshen grenadine.....	125
vegetables.....	122
to iron silk or satin....	126
to kill grease spots before painting.....	198
to loosen clinkers	112
glass stoppers.....	112
to make a brilliant whitewash.....	110
a good mucilage.....	111
a cheap crumb cloth.....	112
a mustard plaster.....	21
arrowroot.....	183
a sand bag	184
a soap bag	120
beaf-tea	182, 183
boots waterproof.....	127
egg lemonade....	183
flaxseed lemonade.....	183
Indian gruel.....	182
oatmeal gruel.....	182
rice water.....	184
slippery elm tea.....	183

	PAGE
How to make toast water	183
waterproof blacking.....	112
to measure hay, corn in crib, etc.....	169
to measure in cooking....	165
to mix paints for tints.....	113
to prepare a candle so that it will not blow out....	113
to prepare an almond bag.....	118
glue.....	124
starch.....	120
to press silk pongee.....	119
to promote sleep.....	113
to polish black kid shoes.....	127
to relieve asthma	24
sleeplessness	22
to remove white spots from furniture.....	124
to renew cashmere.....	125
to renovate old furniture.....	124
to restore colors.....	116
faded stockings.....	127
gilt frames.....	187
velvet.....	125
to secure ventilation in the bedroom.....	114
to select flour.....	109
to set color in washing calicoes.....	120
to sever glass.....	191
to soften boots or shoes.....	127
to soften hard water.....	115, 116, 121
to sponge black silk.....	126
to straighten whalebones.....	127
to take nauseous medicine.....	24

	PAGE
How to tell any person's age.....	161
to tell the speed of a train.....	40
to treat brooms.....	194
to treat cholera infantum.....	178
convulsions.....	178
croup.....	179
diphtheria.....	179
salt rheum.....	22
smallpox.....	23
to treat hens.....	107
to treat new kettles... ..	192
to varnish oil-cloth.....	195
to wash black lace.....	120
colored table-cloth.....	119
flannels.....	118
lace.....	119
lawn.....	119
pongee.....	119
woolens.....	119
worsted goods.....	119
to whiten clothes.....	121
to whitewash a room... ..	111
Human body, average temperature.....	216
normal temperature.....	223
Human pulse, the.....	181
Hurdle, racing horses.....	80
men.....	91
Hydrophobia.....	14

Ice, strength of..... ❧

	PAGE
Ice, to rescue one who has broken through.....	12
the thickness required to bear different weights....	214
Illegitimacy, by countries.....	96
Illiteracy in England.....	204
Importance of cleanliness in the bedroom.....	114
of properly cooking meats.....	108
Income of wealthy Americans.....	205
Indian gruel, to prepare.....	182
Indian Reservations.....	74
Schools.....	74
In God We Trust, origin of.....	220
Ingrowing nails, to prevent.....	21
Ink stains, to remove.....	198, 199
Insecticides.....	101
Insect in the ear.....	10
Insects, antidote for stings of.....	11
bites of venomous.....	14
for birds.....	100
on fruit.....	121
on plants.....	101
Insomnia, borax water.....	115
Interest tables.....	167
Interior department, salaries.....	148
International boat races.....	87
Inter-State commerce, salaries.....	149
Inter-University boat races.....	88, 89
Iron and steel, 1880-1899:	
Production.....	49
Exports.....	49
Imports.....	49

Index

249

	PAGE
Iron rust, to remove	198
Iron sauce pans, to clean	193
Iron steamships first built	151
Ivory, to polish	188
Japanese goods, to clean	193
Jewelry, to polish	188
Jewish population	68
Judges, United States, salaries of	147
Julian year, length of	153
Jumping	91
Jury in Mexico	218
Keep a medicine chest	18
Kerosene first used for lighting purposes	151
Kettles, when new, how to treat	192
Killed, wounded and captured in the Civil War	143
Kitchen, the largest	200
Knives, to clean	198
and forks, to polish.....	191, 192
first used in England.....	150
Knot, length of	211
Labor Commissioners, salaries	149
Lace, how to wash	119
Lamps, care of	199, 200
Lamp chimneys, to polish	191
Lampwick and burner, treatment of	199, 200
Languages of the World	45
number of.....	217
<i>vocabularies compared</i>	219

	PAGE
Large bequests to libraries.....	205
vessels	209, 212
Largest American cities.....	68
bell	176
cave.....	177
churches	178
cities of the world.....	68
desert.....	178
fortress.....	177
kitchen	200
library.....	177
locomotive.....	40
passenger stations	40
steamship.....	39
stock yards.....	219
suspension bridge.....	176
telescopes.....	29
theater.....	176
trees.....	177
tunnels.....	175, 176
Lawns, how to wash.....	119
Law schools, number of professors and students.....	75
Learn to swim.....	13
Least prolific nations	95
rainfall	57
Leather, to clean and polish.....	19
Legal brevities.....	21
holidays.....	158
Lemons, to preserve.....	12
Length and breadth of the States and Territories.....	71

	PAGE
Length, measures of.....	163
Length of a mile in different countries.....	166
of a span, a hand.....	217
Leprosy.....	96
Libraries, large bequests to.....	205
Library, ancient, discovered.....	215
the largest.....	177
Lice on dogs and cats.....	99
on plants, to destroy.....	101
Linens, to preserve colors in washing.....	119
Life-saving service; number of stations; where located; property losses; lives lost and saved.....	58
Lighthouse, the highest.....	176
Lighting, electric.....	36
Lime-water, to prepare.....	18
Limits of natural vision.....	180
Line of perpetual snow.....	57
Lining for stair carpets.....	195
Linseed poultice.....	21
Liquors, wines, etc.....	49
percentage of alcohol.....	51
Lockjaw, to prevent.....	21
Locomotive:	
Power of.....	29
Weight of.....	29
Daily earnings.....	29
Largest.....	40
First used in this country.....	151
Locomotives, American, annual product.....	218
Longest railroad system.....	29

	PAGE
Longest rivers and their location.....	128
tunnels.....	175
span of wire.....	176
year recorded.....	218
Longevity.....	97
Loss by strikes to employers and strikers.....	208
by fire.....	210
Lowest temperatures.....	57
Lubricating oil.....	117
Lucifer matches first made....	151
Mad dog.....	14
Mahogany, stains, to remove.....	190
Mail matter, domestic.....	201
Malt liquors :	
Manufactured in the United States.....	50
Imported.....	50
Consumption per capita.....	50
Percentage of alcohol.....	51
Mange on dogs.....	99
Mankind, races of.....	43
Marble, to clean and polish.....	189
Marconi system.....	35
Marriage, a woman's chances for.....	211
Massacre of St. Bartholomew.....	150
Match marks, to remove.....	196
Matting, to clean.....	193, 195
Mealy bug on plants, to destroy.....	102
<i>Measles.....</i>	<i>180, 181</i>
<i>Measures and their equivalents.....</i>	<i>163-165</i>

	PAGE
feat, how to boil.....	108
drippings, preserve.....	108
and fish, appropriate sauces for.....	186
and vegetables, time required for digestion.....	185
federal colleges in the United States, professors and students....	75
fedicine, how to measure.....	165
to prevent mistakes.....	12
when nauseous, how to take.....	24
chest for household....	18
felody of birds.....	214
femblers of congress, salaries of.....	146
feteorology....	56
fetric system :	
Length.....	163
Surface.....	164
Capacity.....	164
Weight.....	164
Equivalents.....	165
fexican jury.....	218
fica, to clean.....	191
figration of birds.....	221
filch cows, number and value.....	54
ildew, to remove.....	199
ile, length of, in different countries.....	166
iles of railroad in the United States.....	28
of telegraph by countries.....	34
of various nations.....	166
ilk as a fire extinguisher.....	9, 221
inisters to foreign countries, salaries.....	148

	PAGE
Mirrors, to cleanse and polish.....	191, 194
Mississippi river, length of navigation.....	129
tributaries of.....	130
Mistakes in giving medicine, to prevent.....	12
Mocking birds, treatment... ..	100
Mold, to prevent.....	197
Monarchies.....	44
Monetary unit in foreign countries.....	172, 173
Money, confederate, its value.....	47
in circulation in the United States.....	204
orders, postal.....	202
Most productive age.....	95
prolific nations.....	95
remarkable things.....	174-178
Moth, to expel.....	196
proof bags for clothing.....	126
Moulting, canaries.....	99
Mountains, highest in the world.....	134
Mucilage, how to make.....	111
Mules, number and value.....	54
Mumps.....	18
Mustard plaster, how to make.....	2
stains, to remove.....	18
 Nails, to prevent ingrowing.....	 1
National colors, when adopted.....	15
Nationality of foreign-born citizens.....	57
Nation's dead, the, where buried.....	1
Nativity of foreign-born citizens.....	57
Natural flowers in winter.....	1

	PAGE
Nauseous medicine, how to take.....	24
Nautical mile, length of.....	211
Navy department, salaries.....	147, 149
Needles first used.....	150
New kettles, how to treat.....	192
Newspaper advertisement first appeared.....	151
Newspaper first printed in the United States.....	151
first published in England.....	150
Newspapers of the world.....	33
for cleaning.....	191
Neuralgia, to relieve.....	21
Nickel, to polish.....	187
Nipples, to relieve when sore.....	21
North pole, highest latitude reached.....	146
Nose, to remove any foreign substance.....	10
bleeding.....	9
Notes, agreements, contracts.....	212
Bank of England, destroyed weekly.....	218
Number of languages.....	217
of persons per square mile in various countries.....	59-63
of States and Territories in the Union.....	136
of troops engaged in the several wars of the United States.....	142
Nurses, duties and qualities of.....	185
schools for training.....	75
Oatmeal gruel, to prepare.....	182
Oats , weight of bushel in different States.....	168
Ocean depths, greatest.....	32, 220
Ocean , quantity of salt.....	220

	page
<i>from road</i>	221, 223
<i>How it should be removed</i>	125
<i>if the work should be prevented</i>	124
<i>if working is prevented</i>	109
<i>Remove feet, remedy for</i>	17
<i>Remove lines to remove</i>	195
<i>to clean and remove</i>	193, 194
<i>Oil for lamps</i>	200
<i>for lubricating</i>	117
<i>Oil colleges</i>	45
<i>to remove, to renovate</i>	124
<i>Oliver, President of the United States</i>	137
<i>Open</i>	219
<i>Ornithology introduced in New York</i>	151
<i>Ornithology primer, its equivalent</i>	34
<i>Orms, weight of bushel in different States</i>	168
<i>Origin of "Tip"</i>	219
<i>Oxen, number and value</i>	54
Pacers	79, 81
<i>Paint spots, to remove from clothing or the hands</i>	196
<i>Paint, to clean</i>	193, 194
<i>Palmer car, cost of</i>	29
<i>Papering, hints on</i>	194
<i>Parties and Presidential candidates</i>	140
<i>Passenger stations</i>	40
<i>Length, width</i>	40
<i>Number of tracks</i>	40
<i>Cost of</i>	29
<i>Pauper centenarians</i>	98

	PAGE
Pearl, to polish.....	188
wedding.....	210
Peas, weight of bushel in different States.....	168
Per capita amount of money in circulation in the United States.....	204
debt of different countries.....	205
Percentage of foreign-born population.....	67
of barrenness in man and woman.....	95, 96
of alcohol in wines and liquors..	51
Percussion caps first used by the U. S. army....	151
Perfumes, flowers consumed in making.....	219
Periods of gestation.....	216
Perpetual lamps.....	200
snow, line of.....	57
Persons employed on railroads.....	29
Perspiring feet.....	20
Petroleum, crude.....	51
Product of the United States.....	51
Russia	51
the world.....	51
Pharmaceutical colleges in the United States.....	75
Pins first manufactured in this country.....	151
Pistol records.....	92
Plagues.....	96
Plants, care and treatment of.....	101-105
Polar exploration.....	146
Pongee, to wash.....	119
Pool records.....	93
Popular and electoral votes for Presidents	145
Population of the United States.....	64-65

	PAGE
Population by States.....	64-66
of Alaska.....	66
of Indian Territory....	66
of Indian Reservations.....	74
sex, comparative numbers..	66
native-born.....	67
foreign-born by countries.....	67
percentage of foreign-born.....	67
Jewish.....	68
by race—White, African, Chinese, Japanese, Indians	68
gain in each decade.....	64-66
gain per cent. in each decade.....	64-66
estimates prior to 1790.....	66
relative rank of States in each decade.....	69
relative rank of largest cities.....	73
center of, by decades.....	74
leading cities in 1900.....	222
Population of the world by countries.....	59-63
annual increase.....	97
Pork products.....	52
Postage, rates of.....	201
stamps, how to affix.....	III
Postal regulations.....	201-203
money orders.....	202
Post-office department, salaries.....	148
Post-office first established.....	150
Potato crop ..	53
Potatoes, how to boil.....	109
shrinkage.....	169
weight of bushel in different States.....	168

	PAGE
altice, linseed.....	21
serve the meat drippings.....	108
sidential office, candidates for.....	140
sidents and Vice-Presidents furnished by different States.....	137
sidents of the United States, how and when they died.....	137
sident's salary and that of other officials.....	146
vailing religion in different countries.....	59-63
ckly heat, to cure.....	22
icpal canals of the world.....	30-32
ited musical notes first used.....	150
iting press first introduced into the United States...	151
first set up at Copenhagen.....	150
duction of gold and silver in the United States since 1849.....	46, 47
of iron and steel in the United States, 1880-'99....	49
of malt liquors.....	50
of wines and liquors.....	49
ductiveness.....	95
essional and amateur walkers compared.....	83
pellers, first to cross the ocean.....	211
olic debt, annual statement from 1791 to 1899.....	206
olic Schools in the United States, teachers and pu- pils.....	75
gilism championship.....	94
se beats, at different ages.....	181
of men, women, and children.....	223
ting the shot.....	90, 91
ty, to remove.....	194

	PAGE
Race, comparative numbers in the United States.....	68
Races of mankind :	
Black.....	44
Brown.....	43
Red.....	44
White.....	43
Yellow.....	43
Races, sporting records.....	78-94
Railroad facts :	
Cost of palace car.....	29
passenger car.....	29
Building one mile of road....	29
Locomotive, daily earnings.....	29
Power of.....	29
Weight of.....	29
Highest elevation.....	29
Longest railroad system.....	29
Number of persons employed.....	29
Railroads in the United States, 1879-1898 :	
Bonded debt.....	28
Capital stock.....	28
Dividends paid.....	28
Gross earnings.....	28
Interest paid.....	28—
Miles of line.....	28
Net earnings.....	28
Railroad speed records :	
Long runs.....	38, 224 —
Short runs.....	38
Average speed.....	38

	PAGE
Railway mileage by countries.....	26
by States and Territories	27
of the United States, increase.....	27
of the world.....	25
Railways, earliest projected.....	221
Japanese, comforts of.....	218
Rainfall of many places in the United States.....	56, 223
Rain in the Sahara.....	178
Rank of the several States and Territories in each decade.	69
of our largest cities.....	73
Rates of postage.....	201
of pulse and breathing.....	181
Rattlesnake, bite.....	14
Ready reference calendar.....	156
Reaping machine patented....	152
Red spider on plants, to destroy.	101
Refrigerator, to keep pure.....	122
Relative rank of our largest cities	73
rank of the States in each decade.....	69
hardness of woods.....	214
Relief for neuralgia.....	21
for stings	23
Religion predominating in different countries.....	59-63
Religions of Europe.....	76
of the world.....	75
Religious denominations of the United States.....	77
liberty granted to the Huguenots in France.....	150
Remarkable bridges.....	174, 175
waterfalls.....	129
<i>Remedy for burns.....</i>	<i>123</i>

	PAGE
Remedy for chilblains	15
for cold feet	19
for corns	17
for earache	18
for frosted feet	19
for gout	15
for headache	20
for heartburn	20
for hiccoughs	20
for offensive or perspiring feet	17, 20
for swelling feet	20
for sciatica	22
Repotting plants	100
Republics	45
Respiration, quantity of air used daily	220
Rest for plants	102
Results of intermarriage of cousins	95, 96
Revolver, patented	152
records	92
Rice water, its use, and how to prepare	184
Rheumatism, to prevent and relieve	22
Rifle records	94
Rivers, longest	128
tributary to the Mississippi	130
Rosewood, to polish	190
Roup in fowls	107
Royalty in England, cost of	204
Rubber bag, value of	18
<i>Ruby wedding</i>	210
<i>Rulers of various countries, salaries of</i>	204

	PAGE
Running records for men.....	82, 83
Rust, to remove from metal.....	198
Rye crop of various countries.....	53
Rye, weight of bushel in different States.....	168
Sailing vessels, speed of.....	42
Salaries of rulers of various countries.....	204
of the Governors of the States and Territories.....	71
of United States officials.....	146
Salt, quantity in ocean.....	220
meat, to preserve.....	123
rheum, how to treat.....	22
Sand bag, its uses and how to make.....	184
Satin or silk, to dye.....	126
Sauces suited to certain meats and fish.....	186
Sawmaker's anvil first brought to America.....	151
Scale on plants, to destroy.....	102
Scarlet fever.....	180, 181, 182
Schools first established.....	45
Sciatica, remedy for.....	22
Scorch, to remove.....	196
Screw propeller introduced.....	152
Sea level, heights of objects and distance visible.....	73
Sea sickness, to prevent.....	16
Second-class mail matter.....	201
Seeds, vitality of.....	217
Sewing machine patented.....	152
Sex, comparative numbers.....	66, 218, 221
Shampoo, a good.....	116
<i>Shapeliness</i> of plants.....	101

	PAGE
Sheep, number and value.....	54
Shells, to polish.....	188, 189
Shipboard, bells on.....	154
Ship canals, and number of vessels using.....	32, 40
Shoe-blackening first used.....	151
Shoes, black kid, to polish.....	127
Shot gun records.....	93
Shot putting.....	90, 91
Shrinkage of wheat, corn, potatoes.....	169
Sidereal day, length of.....	152
year, length of.....	152
Sick diet.....	182-185
room, hints for.....	184
Sight, to preserve.....	16
Silk, care of.....	125, 126
hats, their disadvantage.....	24
or satin, to dye.....	126
pongee, to press.....	119
Silver, to polish....	191
produced in the United States.....	46
Silverware, to polish.....	186
Silver wedding.....	210
Size of a square acre.....	217
Skating.....	85
Sleep, how to promote.....	113
Sleeplessness, to relieve.....	22
Slippery-elm tea, to prepare.....	183
Slugs, to keep from plants.....	103
<i>Smallest European coin.....</i>	<i>218</i>
<i>Smallpox, how to treat.....</i>	<i>23, 180, 181, 182</i>

	PAGE
Small print, avoid.	16
Smith, most common name.	221
Snake bites, antidote for	II, 14
Snails, to keep from plants.	103
Snow line.	57
Soap bag, to make.	120
Soft-shelled eggs	108
Soil for plants.	100
Solar day, length of	152
Soldiers, proportion of, to population in different nations.	221
furnished by the different States.	144
Soot, to remove.	197
for plants.	104
Sore nipples, to relieve.	21
throat, remedy for	23
Span, length of.	217
of wire, the longest.	176
Special delivery of letters.	202
Spectacles, when necessary.	17
Speed of a train, how to tell.	40
of different bodies.	42
of early steam vessels.	211, 212
of railroad trains.	38, 224
of sailing vessels.	42
of steamships.	39, 41, 223
Speedy remedy for chapped hands.	24
Spinning wheel invented.	150
Spoons, to remove mustard stains.	186
<i>Sponges, care of.</i>	117

	PAGE
Sporting records, for horses :	
Running.....	78
Trotting.....	78, 79
Pacing.....	79
American turf :	
Running.....	79
Hurdle.....	80
Trotting in harness.....	80
" to wagon.....	80
" under saddle.....	80
" by teams.....	81
Pacing in harness.....	81
" to wagon.....	81
" under saddle.....	81
" with running mate.....	81
Sporting records, for men :	
Pugilism.....	94
Football.....	94, 95
Miscellaneous.....	92
Running.....	82, 83
Walking.....	82, 83
Swimming.....	84
" for women.....	85
Skating.....	85
Bicycling.....	85
Base ball.....	86, 87
Boat races-International.....	87
" " Yale and Harvard.....	88
" " Freshmen Eights.....	89
" " Inter-University.....	89

Sporting records for men—*Continued* :

Boat races—Oxford-Cambridge.....	90
Croquet-Roque	90
Weight throwing.....	90, 91
Hammer throwing.....	90, 91
Shot putting.....	90, 91
Hurdle racing.....	91
Jumping	91
Vaulting	91
Broad jump.....	92
Climbing.....	92
Revolver	92
Pistol.....	92
Shot-gun	93
Rifle.....	94
Pool	93
Spots from heat, to remove from furniture.....	124
Stains, by fruit, wine, medicine, or milk, to remove.....	197, 198
of egg, acid, iron rust, or ink, to remove.....	198
on mahogany, to remove.....	190
Stair carpets, lining for.....	195
rods, to polish.....	187
Standard of foreign money.....	172, 173
Standard time.....	153
Starch, to prepare.....	120
State department, salaries	147
flowers.....	208
States, fictitious name of.....	130
of the Union, when admitted.....	136
<i>Steamboat plied first on the Hudson.....</i>	<i>151</i>

	PAGE
Steamboat, the first to cross the ocean.....	211
Steam-engine brought from England.....	51
Steamship statistics :	
Size.....	39
Displacement.....	39
Horse power.....	39
Speed.....	39, 41
Cost.....	39
Use of ship canals.....	40
Steel and iron.....	49
Steel pens first made.....	151
Stings of insects.....	11, 23
Stockings, to preserve.....	127
Stockyards, largest.....	219
Stoves, to polish.....	191
Strength of ice.....	42, 214
Strikes and their cost.....	208
Strike, St. Louis, street car.....	203
Summer complaint.....	19
Sunday-schools of the world.....	77
Surface, measures of.....	164
Surnames, most common.....	221
Suspension bridge, the largest.....	176
Sunstroke, to relieve.....	12
Swallowing coins, buttons, etc.....	23
Sweeping carpets, brooms, etc.....	194
Sweet potatoes, weight of bushel in different States....	168
<i>Swift Atlantic passages.....</i>	<i>41</i>
<i>Swim, learn to.....</i>	<i>13</i>
<i>Swimming records.....</i>	<i>84, 85</i>

	PAGE
Swine, number and value.....	54
Table for quickly calculating time.....	155
showing how to tell a person's age.....	161
showing the time of day in various cities when it is noon at Washington.....	162
Tea, its production and consumption by countries.....	55
trays, to clean.....	192
Teeth, care of.....	116
Telegraph, first operated.....	152
rates to foreign countries.....	37
statistics.....	34-37
Telegraph—Western Union Company :	
Growth.....	35
Messages sent.....	35
Miles of line ..	35
Officers	35
Receipts and expenses.....	35
Telegraphy, growth of, in the principal countries.....	37
wireless.....	35
Telephone—American Bell Telephone Company.....	35
Telephone patented.....	152
Telephone statistics :	
Capital.....	35, 37
Gross and net earnings.....	35
Growth.....	35
Mileage....	35, 37
Number of exchanges.....	35
Number of subscribers.....	35, 37
Telescopes.....	22

	PAGE
Telescopes invented	151
Temperance society first organized.....	151
Temperature, normal, of human body.....	216, 223
of many places in the United States.....	56
of space.....	217
Territories when organized.....	136
Theater, the largest, size and cost.....	176
Theological schools in the United States, professors and students.....	75
Third-class mail matter.....	202
Thirteen original States.....	136
Throwing the baseball, lacrosse ball, cricket ball.....	92
the weight, hammer, and shot.....	90, 91
Time, how divided.....	152
of day in other cities when it is noon at Washington	162
on shipboard	154
required for digestion	185
Timothy seed, weight of bushel in different States.....	168
Tins, to brighten and scour	187, 188, 191
Tin wedding.....	210
Tints, how to produce.....	113
Tip, origin of.....	219
Toast water, to prepare.....	183
Tobacco, acreage, product and value.....	54
To check an epileptic fit	9
To clean and sweep carpets.....	192, 194
To clean bottles.....	192, 193
brass and copper	187
<i>floors</i>	190
<i>furniture</i>	190

	PAGE
to clean glass globes.....	189
gold trinkets.....	191
griddles.....	194
iron sauce pans.....	193
Japanese goods.....	193
knives.....	192, 198
leather.....	193
marble.....	189
matting.....	193, 195
mica.....	191
oil-cloths.....	193
paint.....	193, 194
tea trays.....	192
varnished paint.....	194
windows.....	189
to cure a cold.....	15
face eruptions.....	24
prickly heat.....	22
to destroy house pests.....	105
woodlice.....	105
to escape from a house on fire.....	11
to extinguish clothing on fire.....	8
fire from coal oil.....	9, 221
toothache, to relieve.....	25, 184
to polish bronze.....	187
combs.....	117
furniture.....	190, 195
gilt articles.....	188
gilt frames.....	187
grates.....	187

	PAGE
To polish hardwood floors.....	190
horn.....	189
ivory.....	188
jewelry	188
knives and forks.....	191, 192
lamp chimneys.....	191
leather.....	193
marble.....	189
mirrors.....	191
nickel.....	187
pearl.....	188
rosewood.....	190
shells.....	188, 189
silverware.....	186, 191
stair-rods.....	187
stoves.....	191
tinware.....	187, 191
windows.....	191
To preserve butter.....	122
children's stockings.....	127
colors in washing linen.....	119
dried fruit	121
eggs.....	122
fish	123
flour.....	122
fresh flowers	102
fresh meat.....	123
game	123
hams.....	123
lemons.....	123

	PAGE
To preserve natural flowers in winter.....	104
plants from ants.....	103
plants from slugs and snails	103
the complexion.....	116
the sight	16
the teeth.....	116
salt meat.....	123
To prevent colds.....	24
draughts in the bedroom.....	114
drowning.....	12
fatigue.....	25
feet from perspiring.....	20
flannel from shrinking.....	120
hens from eating their eggs.....	108
hinges from creaking.....	195
horses' feet from balling.....	111
ingrowing nails.....	21
lockjaw.....	21
loss of hair.....	117
mistakes in medicine.....	12
mold.....	197
odors in the sickroom.....	184
odor of cooking.....	109
rheumatism.....	22
seasickness	16
wooden bowls from cracking	197
To relieve a case of apoplexy	13
asthma	24
<i>bites of venomous animals or insects</i>	
<i>bloat in cattle</i>	

	PAGE
To relieve bruises.....	13
burns.....	14
choking.....	14
frost bite.....	15
frosted feet.....	19
heartburn.....	20
rheumatism.....	22
sunstroke.....	12
swelling feet.....	20
toothache.....	25
vomiting.....	24
To remove a bean, pea or other substance from the nose..	10
a cinder from the eye.....	10
an object from the ear.....	10
dandruff.....	117
egg, acid, iron rust, or ink stains.....	198
fruit, wine, milk, or medicine stains.....	197, 198
grime from face and neck.....	115
grease from books, linen, silk.....	196
match marks.....	196
mildew.....	199
mustard stains on spoons.....	186
paint from cloth, and other goods.....	196
putty.....	194
rust from metal.....	198
scorch.....	196
soot.....	197
stains from mahogany.....	190
<i>the odor of clothes</i>	125
<i>warts</i>	179

Index

275

	PAGE
To remove white spots from oil-cloth	193
wrinkles in silk and velvet	126
To repair walls.....	195
To rescue one who has broken through the ice.....	12
To resuscitate a drowning person.....	7
To restore a person who has fainted.....	10
consciousness	9
Tornadoes, amount of destruction.....	58
where most frequent.....	58
Tortoise shell, to polish.....	189
To stop bleeding	8
Tourists, amount they spend annually in Italy.....	221
Treasury department, salaries.....	147
Treatment of lamp wick and burner.....	199, 200
Tree, the oldest	219
Trees, the biggest	177
Tributaries of the Mississippi	130
Tropical year, length of.....	152
Trotters.	78-81
of high value	207, 217
Tunnels, largest	156, 175
Turf, sporting records	78-81
Turnips, weight of bushel in different States ...	168
Typhoid fever.....	180, 181
Union flag first unfurled.....	151
United States, officials, salaries of.....	146
public debt, annual statement from 1791 to 1899 ...	206
when each was admitted.....	136
<i>Unit of value in foreign countries</i>	<i>172, 171</i>

Universal calendar	156, 157
Universities in the United States, number of professors and students	75
Valuable horses	207, 217
Value of a linseed poultice	21
of a rubber bag	18
of diamonds	171
Values of foreign coins	172, 173
Varnished paint, to clean	194
Vaulting	91
Vegetables, to freshen	122
to keep fresh	123
and meats, time required for digestion	185
Velocities, average	125, 126
Velvet, care of	12
to restore	
Venomous animals, bites of	
insects, bites of	
Vessels of great size	42
Veterinary colleges, instructors and students	
Vice-Presidents, deaths of	
who became Presidents	
Visible at sea level, how far	
Vision, limits of	
Vitality of seeds	
Vital statistics :	
Birth rate	
Productiveness	

	PAGE
Vital statistics—Continued:	
Illegitimacy.....	96
Causes of death	96
Plagues.....	96
Leprosy.....	96
Capital punishment	96
Suicide	97
Average annual suicide.....	97
Longevity	97
Centenarians.....	98
Vocabulary of different languages.....	219
Volcano, the loftiest	176
Vomiting, to relieve	24
Votes, electoral, of the several States.....	71
 Walking records for men	82-84
Walls, to repair	195
War department, salaries	147
Wars of the United States.....	142, 143
War statistics of the United States.....	142-145
Warts, to remove.....	179
Washington time compared with that of other cities ...	162
Watch, if wet, what to do.....	12
Watches first made.....	150
Waterfalls, highest.....	129
Water, how to soften.....	115, 116
Watering plants.....	101
Waterproof blacking, how to make.....	112
Waterproof dressing for boots.....	127
Weak eyes, to strengthen	7

	PAGE
Weather forecasts	57
Wedding anniversaries	210
Weight of a barrel of rice, flour, pork	217
Weight of a bushel in different States	168
measure of	164
Weights and their equivalents	166
Weight throwing	90
Wells, deepest	220
Westward movement of center of population	74
Whalebones, to straighten	127
What to do for boils	14
for cuts and wounds	17
for sore nipples	21
when one has swallowed coins, buttons, pins, needles, etc.	23
when you get wet	12
with a watch that has fallen into water	12
Wheat, highest and lowest price of	170
production of various countries	53
shrinkage	169
weight of bushel in different States	168
when harvested	170
When and how the Presidents of the United States died ..	137
When things were first made, discovered or invented ..	150-152
When you get wet, what to do	12
Whitewash, how to make	110
Whooping-cough	180
Window gardening	102, 103
Windows, to clean and polish	189, 191, 194
Wines, consumption per capita	50

Wines—Continued :

percentage of alcohol.....	51
and liquors	49, 50
Wireless telegraphy	35
Wood, its durability and hardness.....	213, 214
engraving invented.....	150
Wooden bowls, to prevent from cracking.....	197
Wooden wedding.....	210
Woodlice, to destroy.....	105
Woodwork, the care of.....	191
Woolen clothes, to put away.....	126
Woolens, how to wash....	119
Woman's chance to marry.....	211
Women and men, comparative numbers.....	221
Women swimmers.....	85
Words, number of, in different languages.....	219
World's fairs, time, place, area, exhibitors, visitors, receipts.....	214
Worsted goods, how to wash.....	119
Wounds and cuts.....	17
Wrinkles in silk and velvet, to remove.....	126
Year, longest recorded.....	218
Year, Sidereal, Tropical, Julian, and Gregorian....	152, 153
Years of the several wars of the United States.....	142
Youngest President of the United States.....	137

PULAR HAND-BOOKS



SOME books are designed for entertainment, others for information. ¶ This series combines both features. The information is not only complete and reliable, it is compact and readable. In this busy, bustling age it is required that the information which books contain shall be ready to hand and be presented in the clearest and simplest manner possible. ¶ These volumes are replete with valuable information, compact in form and unequalled in merit and cheapness. They are the latest as the best books on the subjects of which they treat. ¶ Who wishes to have a fund of general information at hand has the desire for self-improvement can afford to be without them. ¶ They are 6 x 4½ inches in size, well bound on good paper, handsomely bound in green cloth, with a heavy paper wrapper to match.

Cloth, each 50 cents

THE PENN PUBLISHING COMPANY

923 Arch Street, Philadelphia

ETIQUETTE

By Agnes H. Morton

There is no passage like good manners. ¶ Even though one possess wealth and intelligence, his success in life may be marred by ignorance of social customs. ¶ A perusal of this book will prevent such blunders. It is a book for everybody, for the social leaders as well as for those less ambitious. ¶ The subject is presented in a bright and interesting manner, and represents the latest vogue.

LETTER WRITING

By Agnes H. Morton

Why do most persons dislike to write letters? Is it not because they cannot say the right thing in the right place? This admirable book not only shows numerous examples just what kind of letters to write, but also gives directions and suggestions enables the reader to become an accomplished original letter writer. ¶ There are four kinds of business and social letters, including invitations, acceptances, letters of sympathy, congratulations, and letters.

QUOTATIONS

By Agnes H. Morton

A clever compilation of quotations, selected from a great variety of sources, and alphabetically arranged. ¶ In addition to a list of quotations in current use, it contains many rare and verse not generally found in similar collections. ¶ An important feature of the book is found in the list of lines from well known authors, in which the lines are credited to their original sources.

EPITAPHS

By Frederic W. Unger

Even death has its humorous side. ¶ There are said to be "sermons in stones," but when they are tombstones there is many a smile mixed with the moral. ¶ Usually churchyard humor is all the more delightful because it is unconscious, but there are times when it is intentional and none the less amusing. ¶ Of epitaphs, old and new, this book contains the best. It is full of quaint bits of obituary fancy, with a touch of the gruesome here and there for a relish.

PROVERBS

By John H. Bechtel

The genius, wit, and spirit of a nation are discovered in its proverbs, and the condensed wisdom of all ages and all nations is embodied in them. ¶ A good proverb that fits the case is often a convincing argument. ¶ This volume contains a representative collection of proverbs, old and new, and the indexes, topical and alphabetical, enable one to find readily just what he requires.

THINGS WORTH KNOWING

By John H. Bechtel

Can you name the coldest place in the United States or tell what year had 445 days? Do you know how soon the coal fields of the world are likely to be exhausted, or how the speed of a moving train may be told? What should you do first if you got a cinder in your eye, or your neighbor's baby swallowed a pin? This unique, up-to-date book answers thousands of just such interesting and useful questions.

A DICTIONARY OF MYTHOLOGY

By John H. Bechtel

Most of us dislike to look up a mythological subject because of the time required. ¶ This book remedies that difficulty because in it can be found at a glance just what is wanted. ¶ It is comprehensive, convenient, condensed, and the information is presented in such an interesting manner that when once read it will always be remembered. ¶ A distinctive feature of the book is the pronunciation of the proper names, something found in few other works.

SLIPS OF SPEECH

By John H. Bechtel

Who does not make them? The best of us do. ¶ Why not avoid them? Any one inspired with the spirit of self-improvement may readily do so. ¶ No necessity for studying rules of grammar or rhetoric when this book may be had. It teaches both without the study of either. ¶ It is a counsellor, a critic, a companion, and a guide, and is written in a most entertaining and chatty style.

HANDBOOK OF PRONUNCIATION

By John H. Bechtel

What is more disagreeable than a faulty pronunciation? No other defect so clearly shows a lack of culture. ¶ This book contains over 5,000 words on which most of us are apt to trip. ¶ They are here pronounced in the clearest and simplest manner, and according to the best authority. ¶ It is *more readily* consulted than a dictionary, and is *just as reliable*.

PRACTICAL SYNONYMS

By John H. Bechtel

A new word is a new tool. ¶ This book will not only enlarge your vocabulary, but will show you how to express the exact shade of meaning you have in mind, and will cultivate a more precise habit of thought and speech. ¶ It will be found invaluable to busy journalists, merchants, lawyers, or clergymen, and as an aid to teachers no less than to the boys and girls under their care.

AFTER-DINNER STORIES

By John Harrison

The dinner itself may be ever so good, and yet prove a failure if there is no mirth to enliven the company. ¶ Nothing adds so much zest to an occasion of this kind as a good story well told. ¶ Here are hundreds of the latest, best, brightest, and most catchy stories, all of them short and pithy, and so easy to remember that anyone can tell them successfully. ¶ There are also a number of selected toasts suitable to all occasions.

TOASTS

By William Pittenger

Most men dread being called upon to respond to a toast or to make an address. ¶ What would you not give for the ability to be rid of this embarrassment? No need to give much when you can learn the art from this little book. ¶ It will tell you how to do it; not only that, but by example it will show the way. ¶ It is valuable not alone to the novice, but to the experienced speaker, who will gather from it many suggestions.

DEBATER'S TREASURY

William Pittenger

There is no greater power of skillful and forcible debate, and no accomplishment more readily acquired if the person properly directed. ¶ In this little volume are directions for organizing and conducting debating societies and practical suggestions for all who desire to discuss questions in public. ¶ There is also a list of over 200 questions for debate, with arguments both affirmative and negative.

PUNCTUATION

By Paul Allardyce

Few persons can punctuate properly; to avoid mistakes many do not punctuate at all. ¶ A perusal of this book will remove all difficulties and make all points clear. ¶ The rules are plainly stated and freely illustrated, thus furnishing a most useful volume. ¶ The author is everywhere recognized as the leading authority upon the subject, and what he has to say is practical, concise, and comprehensive.

ORATORY

By Henry Ward Beecher

Few men ever enjoyed a wider experience or achieved a higher reputation in public speaking than Mr. Beecher. ¶ What he has to say on this subject was born of experience, and his own inimitable style was at once both statement and illustration of his theme. ¶ This volume is a unique and masterly treatise on the fundamental principles of true oratory.

CONVERSATION Some people are accused of talking too much. But no one is ever taken to task for talking too well.

By J. O. Mahaffy

¶ Of all the accomplishments of modern society, that of being an agreeable conversationalist holds first place. Nothing is more delightful or valuable. ¶ To suggest what to say, just how and when to say it, is the general aim of this work, and it succeeds most admirably in its purpose.

READING The ability to read aloud well, whether at the fireside or on the public platform, is a fine art.

By Ernest Legouvé

¶ The directions and suggestions contained in this work of standard authority will go far toward the attainment of this charming accomplishment. ¶ The work is especially recommended to teachers and others interested in the instruction of public school pupils.

CONUNDRUMS Conundrums sharpen our wits and lead us to think quickly. ¶ They are also a source of infinite amusement

By Dean Rivers

and pleasure, whiling away tedious hours and putting everyone in good humor. ¶ This book contains an excellent collection of over a thousand of the latest, brightest, and most up-to-date conundrums, to which are added many Biblical, poetical, and French conundrums.

MAGIC

By Ellis Stanyon

There is no more delightful form of entertainment than that afforded by the performances of a magician. ¶ Mysterious as these performances appear, they may be very readily learned if carefully explained. ¶ This book embraces full and detailed descriptions of all the well known tricks with coins, handkerchiefs, hats, flowers, and cards, together with a number of novelties not previously produced or explained. ¶ Fully illustrated.

HYPNOTISM

By Edward H Eldridge, A M.

There is no more popular or interesting form of entertainment than hypnotic exhibitions, and everyone would like to know how to hypnotize. ¶ By following the simple and concise instructions contained in this complete manual anyone may, with a little practice, readily learn how to exercise this unique and strange power.

WHIST

By Cavendish

Twenty-third Edition

"According to Cavendish" is now almost as familiar an expression as "according to Hoyle." ¶ No whist player, whether a novice or an expert, can afford to be without the aid and support of Cavendish. No household in which the game is played is complete *without a copy of this book.* ¶ This edition contains all *of the matter found in the English publication and at one-fourth the cost.*

